JOHN CANNING & CO LTD

PAINTING • PLASTERING • CONSERVATION STUDIOS

Final Report

National Park Service
Golden Gate National Recreation Area Fort Mason
Bay View Room Mural and Ceiling Restoration
San Francisco, CA
Contract Number:P13PC00340



April 29, 2014

John Canning & Co., Ltd.
150 Commerce Court
Cheshire, Connecticut 06410
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INTRODUCTION

The following report summarizes the restoration work carried out by John Canning Studios (JCS) for the Bay View Room Ceiling and Mural Restoration. John Canning Studios was awarded the restoration of the Bay View Room through a competitive qualified low bid process on September 13, 2013. Notice to proceed then became effective on January 9, 2014 with a required completion date of April 24, 2014. The actual completion date and demobilization of the project was April 9th, 2014.

This report summarizes the scope of work completed by JCS as well as daily logs, photographic documentation, drawings, historical photos, finishes investigation reports, and other important documents needed for the completion of the project.

SUPERVISORS AND KEY PERSONNEL

David Riccio:	*Project Manager and Lead Decorative Painter*
Michael Nelson:	*Site Supervisor, Surface Preparation and Decorative Painter*
Michael Deluco:	*Surface Preparation and Decorative Painter*
Renato Tevecchio:	*Door Restorator*



BACKGROUND INFORMATION

The main source of John Canning Studio's work was based on architectural drawings and reports prepared by Architectural Resources Group. The drawings included a reflected ceiling plan, floor plan, interior elevations, and substrate identification. The report includes the existing conditions of the room, microscopic analysis, and color matches of the ceiling and window soffits.

Historical evidence proves that the room had always had an aquatic theme and feel. Some have described the room to appear as if in the ocean underwater and looking up, or even as an extension of the panoramic view of the bay, seen from inside the room.

The spiral ceiling was originally done in a sea foam green, with the vertical planes of the spiral, painted to match the upper walls. This two-toned detail allowed for an added delineation of the horizontal and vertical lines.

The original wall substrate was plaster. The color of lower wall can be described as a cerulean/aquamarine blue, and transitions into a pale turquoise as it rises towards the ceiling. The walls were further treated with a hemp, or manila, rope line that had been embedded into the wall during construction. The rope line adds to the aquatic theme, by creating nautical theme shapes lines throughout the room.

The floor and baseboards are terrazzo and a deep blue color, to correspond to the wall finish. In the center of the floor geometric shapes can also be found.

Twp (2) decorative doors accent the room. Originally both doors accessed the kitchen, however, today only one door accesses the kitchen and the second door leads to an office. Both doors utilize geometric shapes.







SCOPE OF WORK

The scope of work for the Bay View Room included:

- Paint Finishes Investigation
- Protection of Surfaces: Floors and Glass
- Paint Removal at Ceiling (where required)
- Paint Removal at Walls (where required)
- Surface Repairs and Preparation
- Decorative Paint Mockups
- Painting of Ceiling and Walls
- Painting of Doors and Windows
- New Door and Hardware

A limited paint finishes investigation was prepared, to continue the effort started by ARG. Larger exposures were completed, in order to unveil the original finish and treatment and to better visualize the colors in context, and understand the execution. Color matches were also completed based on the exposures.

For the localized paint removal at the ceilings and walls, paint was removed until it met a sound surface. Mechanical methods of paint removal were used in order to remove loose and delaminating paint, and chemical methods were used for tougher surfaces such as the rope line decoration. Paint was stripped from the ends of the rope line ornament to reveal chrome caps.

Existing loose canvas on the ceiling and walls were stabilized, and reattached with a reversible adhesive.

In addition to the original scope, lost or damaged canvas was replaced with new canvas. Plaster repairs beneath the canvas walls and ceiling were also completed.

Significant plaster repairs were found adjacent to window openings, where water seeped in. In these areas, the canvas was peeled back to allow for damaged plaster to be cut out and replaced. The canvas was then re-adhered.

The glaze on the wall consists of three colors that were matched to the exposures. Using a wet on wet method, the colors were blended to transition from the top of the wall to the floor.

Window frames, throughout the room, had previously been replaced with a metal frame. Since the original color could not be exposed, the window frames were painted to match the historic wood trim.

Another addition would be the second ornamental door, which was a non-historic metal door. The door was replaced with a solid core door, new hardware, and painted with a geometric pattern to match the adjacent door. The design on the new door was based on a historical photograph from 1940. While the colors could not be identified from the black and white photograph, the door was painted to match the other ornamental door. The main difference between the two doors would be the raised geometric designs in the original door that is existing. It is likely both doors had raised ornament, however, the new solid core door remains flat.

MAINTENANCE

The success of a restoration, over a period of time, depends heavily on a commitment to continuing proper maintenance. Proper maintenance will either stop or greatly reduce the deterioration process, preventing any further alterations. It will also increase the longevity of the paint finishes, thus reducing the need for costly future restoration treatments.

1. Do no harm to the finished surfaces. Do not use, adhere, or tack messages or posters to the walls, moldings, or ceiling.
2. No furniture should sit directly against the wall. Keep items placed at a distance of 12", at the minimum.
3. When absolutely necessary, clean finished surfaces using a mild soap and water mixture. Rinse the soap off of the surface, at least two times, with clear water.
4. For any exposed corners or edges, it would be ideal to use a metal protector, that could be painted to match the color of the wainscot level color.
5. Note: Because the finished surfaces use blended colors, any damage would be almost impossible to replicate.

Aside from these key points, unskilled practitioners should not perform repair work. It is highly advised that skilled painter who specializes in the decorative finishes be called before any repair work is attempted.

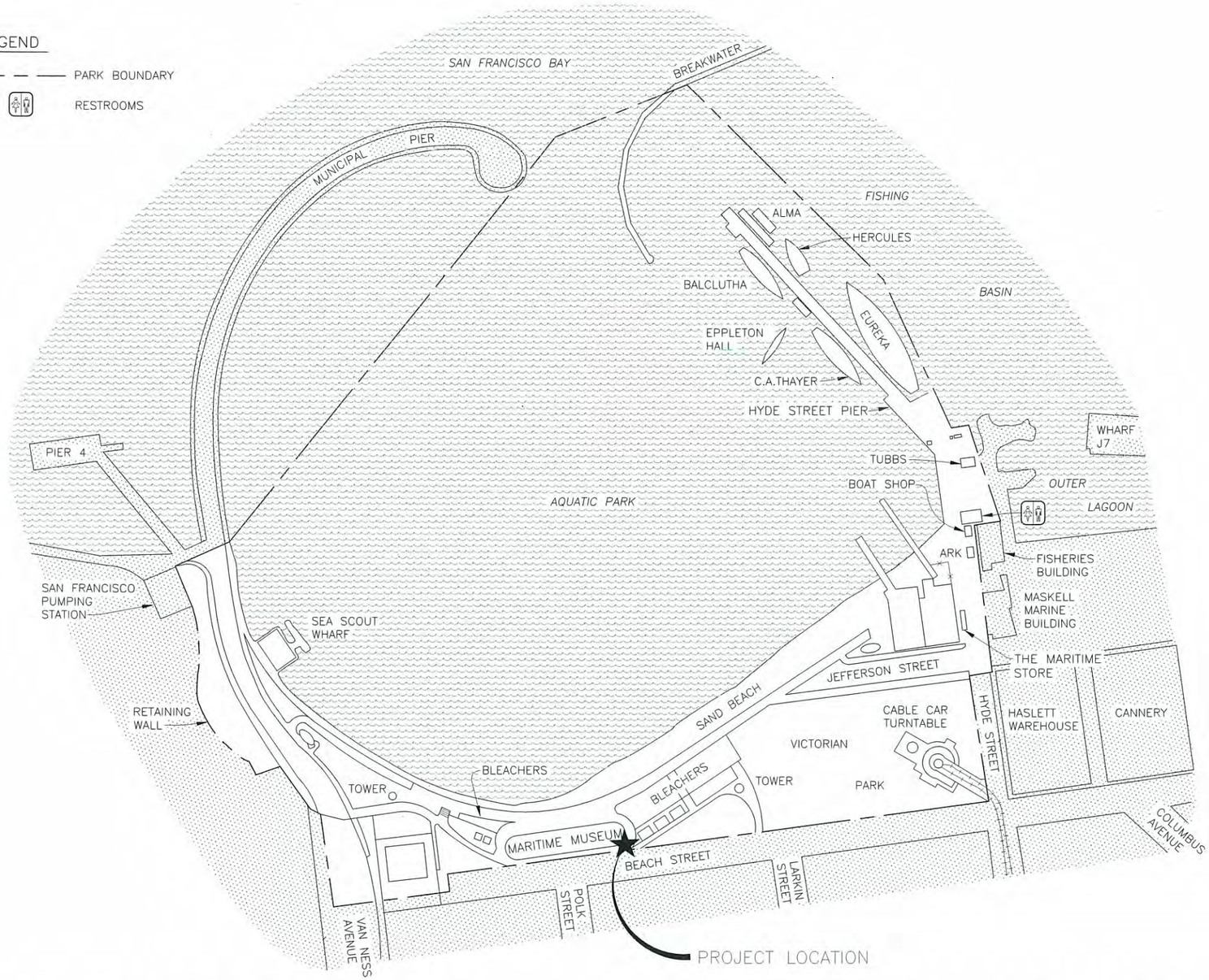


APPENDIX A:

HISTORICAL:

Drawings
Historical Photograph

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SAN FRANCISCO MARITIME NATIONAL HISTORICAL PARK

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SCALE OF FEET
100 0 100 200 300
25 0 25 50 75
SCALE OF METERS

Mark	Sheet	REVISION	Date	Initial

QUALITY DESIGN CERTIFICATION
- ☐ Prepared in Accordance with Design Development (Title I) ____ Drawing No.
  OR
- ☐ Variance from Design Development (Title I) Approved by Superintendent on ____ Date
  OR
- ☐ Construction Drawing Not Preceded by Design Development (Title I)

Project Manager ____ Date

100% CONSTRUCTION DOCUMENTS

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

TITLE OF DRAWING
BAY VIEW ROOM MURAL
LOCATION WITHIN PARK
MARITIME MUSEUM BUILDING
NAME OF PARK
SAN FRANCISCO MARITIME N.H.P.
REGION: PACIFIC WEST | COUNTY: SAN FRANCISCO | STATE: CALIFORNIA

DRAWING NO. 350 114226
PKG. NO. SAFR
SHEET 1 OF 11

BASIC DATA: 350/80,000 4/87; PARK MINI FOLDER 1993; DRAWN 9/93. UPDATED 11/98. SGS.

11/21/12 17:30 LBURNASH R17 Z:\06_PROJ\06204_56 AQUATIC PARK BAY VIEW RM CEILING TITLE I\13_DRAWINGS\06_CONSTRUCTION_DOCS\100% CDS\GEN\T1.DWG XREFS: \X-SAFBASE.DWG;

ABBREVIATIONS

&	AND
?	ANGLE
@	AT
?	CENTERLINE
?	DIAMETER/ ROUND
#	POUND OR NUMBER
⊥	PERPENDICULAR
?	PROPERTY LINE OR PLATE
?	SQUARE FEET
AB	ANCHOR BOLT
ABV	ABOVE
ACOUS	ACOUSTICAL
ACT	ACOUSTIC CEILING TILE
AD	AREA DRAIN
ADJ	ADJUSTABLE / ADJACENT
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AL	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASB	ASBESTOS
ASPH	ASPHALT
ATT	ATTACH
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BUR	BUILT-UP ROOFING
CAB	CABINET
CB	CATCH BASIN
CEM	CEMENT
CER	CERAMIC
CG	CORNER GUARD
CI	CAST IRON
CJ	CONTROL JOINT
CLG	CEILING
CLKG	CAULKING
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CLEANOUT
COL	COLUMN
COMP	COMPOSITION
CONC	CONCRETE
COND	CONDITION
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CT	CERAMIC TILE
CTR	CENTER
CTSK	COUNTERSUNK
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DETER	DETERIORATED
DF	DRINKING FOUNTAIN
DFPT	DOUGLAS FIR
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DO	DOOR OPENING
DR	DOOR
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DTL	DETAIL
DWG	DRAWING
DWR	DRAWER
E	EAST
(E)	EXISTING
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
EP	ELECTRICAL PANEL
EQ	EQUAL
EQPT	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPANSION
EXPO	EXPOSED
EXT	EXTERIOR
FA	FIRE ALARM
FB	FUSE BOX
FBRGL	FIBERGLASS
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FIN	FINISH
FLR	FLOOR
FLASH	FLASHING
FLUOR	FLUORESCENT
FO	FACE OF
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FABRIC PANEL
FPRF	FIREPROOF
FRP	FIBERGLASS REINFORCED PANEL
FS	FULL SIZE
FT	FOOT OR FEET
FTG	FOOTING
FURR	FURRING
FUT	FUTURE
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GL	GLASS
GLB	GLUE LAM BEAM
GND	GROUND
GR	GRADE
GSM	GALVANIZED SHEET METAL
GYP	GYPSUM
HB	HOSE BIB
HC	HOLLOW CORE
HDR	HEADER
HDWD	HARDWOOD
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
JC	JANITOR CLOSET
JT	JOINT
KIT	KITCHEN
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LB	POUND
LKR	LOCKER
LN	LINOLEUM
LT	LIGHT
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MEDICINE CABINET
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MEMB	MEMBRANE
MET/MTL	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MUL	MULLION
N	NORTH
(N)	NEW
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OBS	OBSCURE
OC	ON CENTER
OCC	OCCUPANCY OR OCCUPANT(S)
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
PARA	PARALLEL
PERP	PERPENDICULAR
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLYWD	PLYWOOD
PR	PAIR
PRCST	PRECAST
PT	PAINT
PTD	PAPTER TOWEL DISPENSER
PTD/R	COMBINATION PAPER TOWEL DISPENSER / RECEPTACLE
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
QT	QUARRY TILE
(R)	REMOVE
R	RISER
RAD	RADIUS
RB	RUBBER BASE
RD	ROOF DRAIN
REC	RECESSED
REF	REFERENCE
REFG	REFRIGERATOR
REHAB	REHABILITATE
REINF	REINFORCED
REP	REPAIR
REQ	REQUIRED
RESIL	RESILIENT
RES	RESTORE
RF	REFINISH
RGTR	REGISTER
RL	ROOF LEADER
RM	ROOM
RO	ROUGH OPENING
RWD	REDWOOD
RWL	RAIN WATER LEADER
S	SOUTH
SAD	SEE ARCHITCTURAL DRAWINGS
SALV	SALVAGE
SC	SOLID CORE
SCD	SEE CIVIL DRAWINGS
SCHED	SCHEDULE
SD	SOAP DISPENSER
SECT	SECTION
SED	SEE ELECTRICAL DRAWINGS
SH	SHELF
SHR	SHOWER
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLD	SEE LANDSCAPE DRAWINGS
SLR	SEALER
SMD	SEE MECHANICAL DRAWINGS
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SPEC	SPECIFICATION
SQ	SQUARE
SSD	SEE STRUCTURAL DRAWINGS
SSK	SERVICE SINK
SST	STAINLESS STEEL
ST	STAINLESS
STD	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUC	STRUCTURAL
SV	SHEET VINYL
SYM	SYMMETRICAL
T/TRD	TREAD
TB	TOWEL BAR
TCA	TILE COUNCIL OF AMERICA
TEL	TELEPHONE
TER	TERRAZZO
T&G	TONGUE & GROOVE
THK	THICK
TO	TOP OF
TOC	TOP OF CURB
TOP	TOP OF PAVING
TPD	TOILET PAPER DISPENSER
TR	TRASH RECEPTACLE
TS	TUBE STEEL
TV	TELEVISION
TOW	TOP OF WALL
TYP	TYPICAL
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UR	URINAL
VCT	VINYL COMPOSITION TILE
VCP	VITREOUS CLAY PIPE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VP	VENEER PLASTER
VTR	VENT THROUGH ROOF
VW	VINYL WALLCOVERING
W	WEST
W/	WITH
WC	WATER CLOSET
WCV	WALLCOVERING
WD	WOOD
WF	WIDE FLANGE
WO	WHERE OCCURS
W/O	WITHOUT
WP	WATERPROOF
WT	WEIGHT
WWF	WELDED WIRE FABRIC

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY THAT (E) CONDITIONS ARE AS INDICATED ON THE DRAWINGS. NOTIFY THE CONTRACTING OFFICER IMMEDIATELY OF VARIATIONS OR DISCREPANCIES. DO NOT PROCEED WITH AFFECTED WORK UNTIL THE VARIATIONS OR DISCREPANCIES ARE RESOLVED BY THE CONTRACTING OFFICER.
2. ALL CONSTRUCTION AND INSTALLATION WORK SHOWN ON DRAWINGS SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES. USE METHODS AS REQUIRED TO COMPLETE WORK WITHIN LIMITATIONS OF ALL PREVAILING LAWS AND CODES.
3. DO NOT SCALE DRAWINGS: USE DIMENSIONS SHOWN. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. DIMENSIONS SHOWN AT (E) CONDITIONS ARE TO FACE OF (E) FINISH. U.O.N. DIMENSIONS AT NEW WORK ARE TO FACE OF FINISHED WALL, U.O.N. DIMENSIONS OF (E) CONDITIONS ARE FOR REFERENCE ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. WHERE NO DIMENSION IS PROVIDED CONSULT WITH THE CONTRACTING OFFICER FOR CLARIFICATION BEFORE PROCEEDING WITH AFFECTED WORK.
4. SAFETY MEASURES: AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF PEOPLE AND PROPERTY. CONTRACTING OFFICER'S SITE VISITS ARE NOT INTENDED TO REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
5. INSTALL MANUFACTURED MATERIALS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS, UNLESS OTHERWISE INSTRUCTED.
6. ALL WASTE AND REFUSE CAUSED IN CONNECTION WITH THE WORK SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF BY THE CONTRACTOR. THE PREMISES SHALL BE LEFT CLEAR AND CLEAN TO THE SATISFACTION OF THE CONTRACTING OFFICER.
7. APPLICATION OF FINISH: SURFACES PREVIOUSLY PREPARED OR INSTALLED BY ANOTHER TRADE SHALL BE INSPECTED CAREFULLY BY THE CONTRACTOR BEFORE APPLYING SUBSEQUENT MATERIALS OR FINISHES. IF SURFACES ARE NOT ACCEPTABLE, THE CONTRACTING OFFICER SHALL BE NOTIFIED IMMEDIATELY IN ORDER THAT CORRECTIONS MAY BE MADE. APPLICATIONS OF FINISHES WILL BE CONSTRUED AS ACCEPTANCE OF RESPONSIBILITY BY THE SUBCONTRACTOR FOR THE BASE UPON WHICH IT IS APPLIED.
8. INSTALL ALL WORK PLUMB, LEVEL AND STRAIGHT, OR AS REQUIRED TO ALIGN WITH (E) ADJACENT SURFACES.
9. CONTRACTOR SHALL DESIGN AND INSTALL SHORING AS REQUIRED TO PERFORM WORK. RESPONSIBILITY FOR ENGINEERING, CONSTRUCTION AND SAFETY OF THE SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLEMENTARY. SEE NOTE 12.
11. CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, SPECIFICATIONS, NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER AND RESOLVED BEFORE PROCEEDING WITH WORK.
12. DETAILS SHOWN SHALL BE INCORPORATED INTO THE PROJECT AT ALL APPROPRIATE LOCATIONS WHETHER SPECIFICALLY CALLED OUT OR NOT.
13. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SUBMITTED TO THE CONTRACTING OFFICER FOR REVIEW DO NOT CONSTITUTE "IN WRITING" UNLESS IT IS CLEARLY NOTED ON THE SUBMITTAL THAT SPECIFIC CHANGES ARE BEING REQUESTED WITH THE PHRASE "REQUESTED CHANGE".
14. THROUGHOUT THE CONSTRUCTION DOCUMENTS, ITEMS THAT ARE EXISTING ARE INDICATED AS "EXISTING" OR "(E)", ITEMS WITHOUT THIS INDICATION ARE NEW CONSTRUCTION. WHERE REQUIRED FOR PURPOSES OF CLARITY, SOME ITEMS MAY BE INDICATED AS "NEW OR "(N)".

HAZARDOUS MATERIALS

15. ARCHITECTURAL RESOURCES GROUP ASSUMES NO RESPONSIBILITY FOR THE MANAGEMENT OF HAZARDOUS MATERIALS THAT MAY BE ON THIS SITE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT PERSONNEL WITHIN THE WORK AREA ARE PROTECTED FROM EXPOSURE TO ANY HAZARDOUS MATERIALS ENCOUNTERED.
17. IF MATERIALS ARE DISCOVERED THAT MAY BE HAZARDOUS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTING OFFICER AND CEASE WORK UNTIL CONDITIONS CAN BE MAINTAINED IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

PROJECT DATA

LOCATION:	900 BEACH STREET SAN FRANCISCO, CA
OCCUPANCY:	A-3 ASSEMBLY MUSEUM, S.F. SENIOR CENTER B BUSINESS S.F. SENIOR CENTER OFFICES, N.P.S. OFFICES
CONSTRUCTION TYPE:	IIB
BUILDING HEIGHT:	4 STORIES
FIRE PROTECTION:	PARTIAL AUTOMATIC FIRE PROTECTION SYSTEM, COVERAGE AT FIRST FLOOR ONLY
APPLICABLE CODES:	2009 INTERNATIONAL BUILDING CODE (IBC) 2009 INTERNATIONAL EXISTING BUILDING CODE 2009 INTERNATIONAL MECHANICAL CODE 2009 INTERNATIONAL PLUMBING CODE 2010 CA TITLE 24 PART 8 CALIFORNIA STATE HISTORIC BUILDING CODE NFPA VOLUMES 1-15 (INCLUDING 2010 NFPA 13 FIRE SPRINKLER CODE, 2008 NFPA 70 NATIONAL ELECTRIC CODE AND 2009 NFPA 101 LIFE SAFETY CODE) AMERCIANS WITH DISABILITIES ACT (ADA) AND ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY GUIDELINES, JULY 2004, AMENDED AUGUST 2005

SYMBOL LEGEND

DOOR SYMBOL
(101) ← DOOR NUMBER

WINDOW SYMBOL
⟨101⟩ ← WINDOW NUMBER

ALIGN SURFACES
↓ ↓ ← ALIGN SURFACES

WALL TYPE SYMBOL
◇A◇ ← WALL TYPE

KEY NOTE SYMBOL
(1) ← KEY NOTE NUMBER

DETAIL SYMBOL
1/A40 ← DETAIL NUMBER; SHEET WHERE DETAIL OCCURS

SECTION SYMBOL
2/A41 ← SECTION NUMBER; SHEET WHERE SECTION OCCURS

PROJECT DIRECTORY

CLIENT:

SAN FRANCISCO MARITIME
NATIONAL HISTORICAL PARK
BUILDING E, FORT MASON CENTER
SAN FRANCISCO, CA 94123

CONTACT: ROBBYN JACKSON
(415)-561-7019 (VOICE)
robbyn_l_jackson@nps.gov

NATIONAL PARK SERVICE
PACIFIC WEST REGION
333 BUSH STREET, SUITE 500
SAN FRANCISCO, CA 94104-2828

CONTACT: GARY HARRIS
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gary_harris@nps.gov

ARCHITECT:

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SAN FRANCISCO, CA 94111

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(415)-421-0127 (FAX)
david@argsf.com

INDUSTRIAL HYGIENIST:

VAN BRUNT ASSOCIATES, INC.
1401 N. BROADWAY, SUITE 225
WALNUT CREEK, CA 94596

CONTACT: MIKE VAN BRUNT
(925) 685-5900 (VOICE)
mike@vanbruntassociates.com

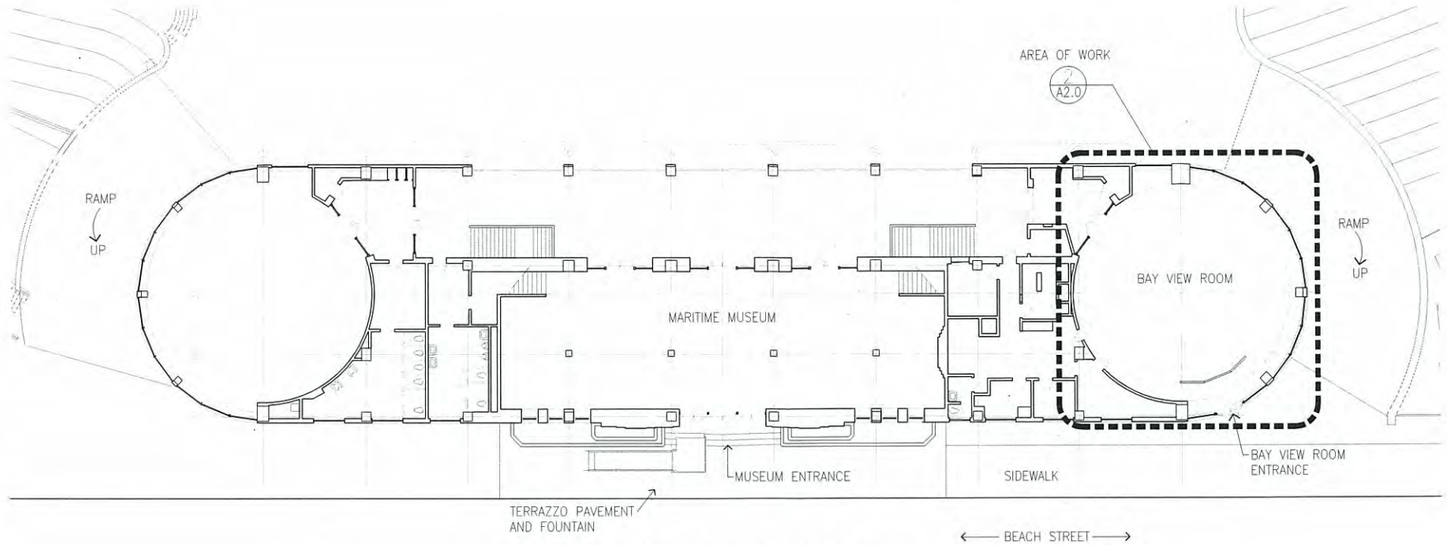
SCOPE OF WORK

THE SCOPE OF WORK INCLUDES:

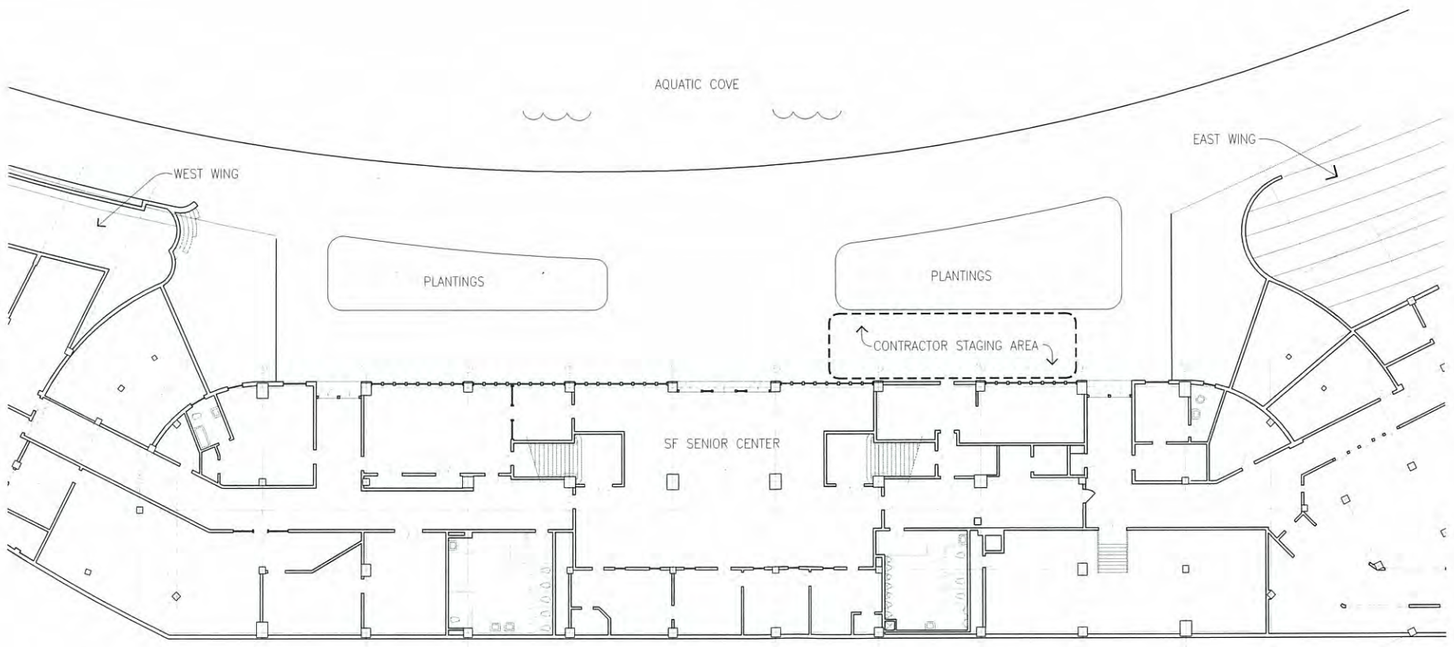
- PREPARATION OF A CONSERVATION PLAN OUTLINING METHODS AND MATERIALS FOR RESEARCHING, DOCUMENTING AND IMPLEMENTING THE REPLICATION OF HISTORIC WALL AND CEILING PAINTING SCHEMES IN THE BAY VIEW ROOM.
- DOCUMENTATION OF EXISTING CONDITIONS AT THE BAY VIEW ROOM DECORATIVE PAINT, INCLUDING CANVAS AND PLASTER SUBSTRATES ON WALL AND CEILING SURFACES.
- INSTALLATION OF PROTECTION TO PREVENT DAMAGE TO ALL HISTORIC ELEMENTS DURING CONSTRUCTION ACTIVITIES.
- REMOVAL OF ~~APPLIED ASBESTOS CEILING AND~~ OVERPAINT LAYERS AND REPLICATION OF HISTORIC DECORATIVE PAINT SCHEME, INCLUDING LIMITED EXPOSURE AND ANALYSIS OF PAINT LAYERS; CHEMICAL AND MECHANICAL REMOVAL OF OVERPAINT; WALL AND CEILING SURFACE PREPARATION INCLUDING GENERAL CLEANING, REATTACHMENT OF LOOSE OR DETACHED CANVAS, AND FILLING LOSSES IN PLASTER; REPLICATING THE HISTORIC COLOR(S) OF THE CEILING; AND PAINTING A REPLICA MURAL SCHEME OVER THE WALLS, DOORS, SOFFITS, AND DECORATIVE ROPE FEATURES.
- THE BASE BID ASSUMES THE HISTORIC CEILING PAINT SCHEME CONTAINED ONLY 1 COLOR. ALTERNATE #1 INCLUDES A DECORATIVE MULTI-COLOR PAINT SCHEME AT THE CEILING.
- IMPLEMENTATION OF LEAD ~~AND ASBESTOS~~ HAZARD CONTROLS AND MONITORING RESULTING FROM THE DISTURBANCE OF LEAD ~~AND ASBESTOS~~-CONTAINING MATERIALS.
- PREPARATION OF A FINAL TREATMENT REPORT.
- PAINTING OF METAL DOOR AND WINDOW FRAME SURFACES AND THE NON-HISTORIC KITCHEN DOOR.

DESIGNED: PAGE LK TECH. REVIEW: DATE: 11/30/12	SUB SHEET NO. G1.0	TITLE OF SHEET: GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	DRAWING NO. 350 114226 PKG. NO. SAFR SHEET 2 OF 11

11/21/12 17:31 L:\BUBMASH R17 Z:\06_PROJ\06204_56 AQUATIC PARK BAY VIEW RM CEILING TITLE II\13_DRAWINGS\06_CONSTRUCTION_DOCS\100% CDS\GEN\T1.1.DWG



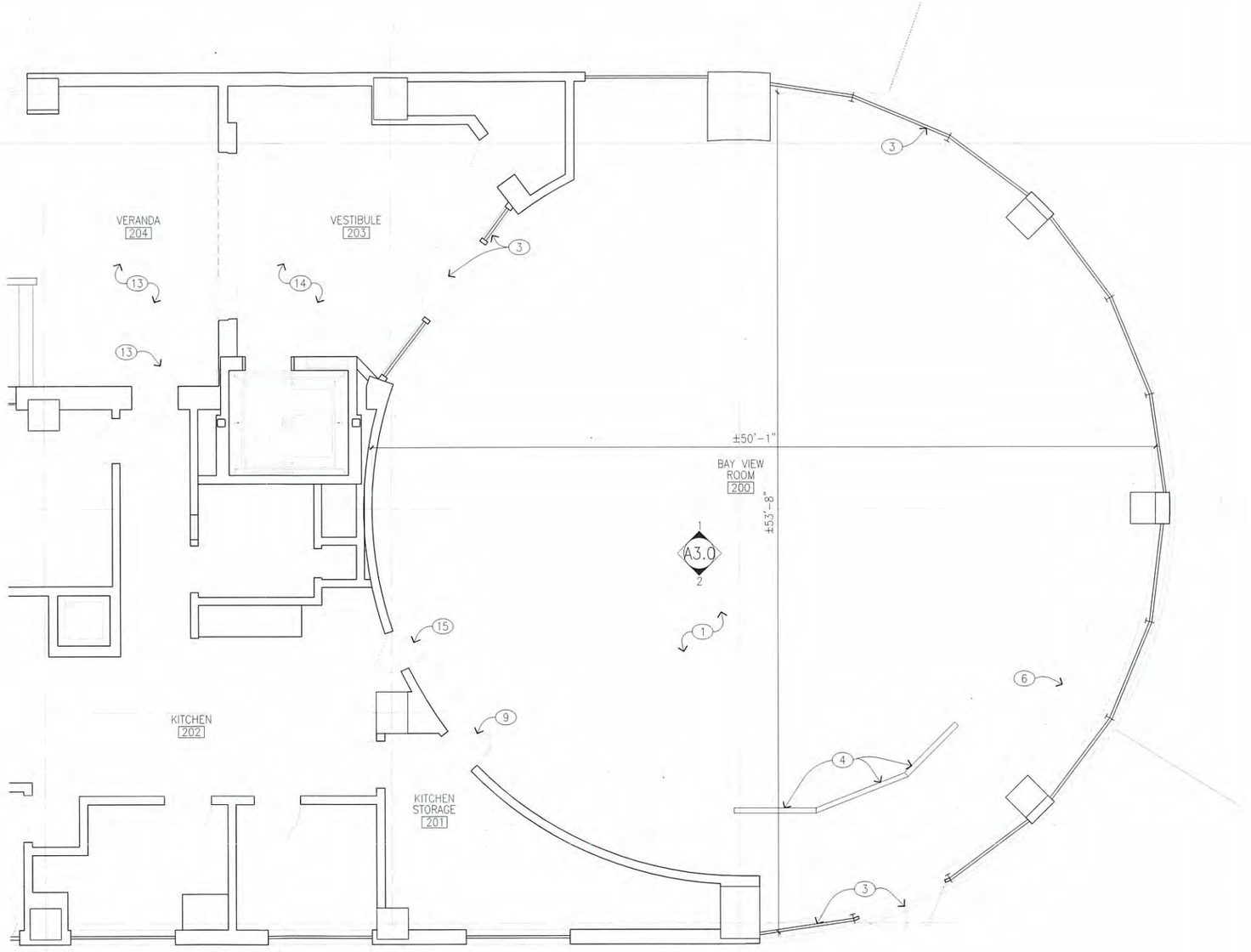
2 SECOND FLOOR KEY PLAN
SCALE: L



1 FIRST FLOOR KEY PLAN
SCALE: L

SCALE L 16 8 0 16 32
SCALE OF FEET

DESIGNED: DWSD LK TECH. REVIEW: DATE: 11/30/12	SUB SHEET NO.: A1.0	TITLE OF SHEET: FIRST AND SECOND FLOOR KEY PLANS MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	DRAWING NO.: 350 114226 PKG. NO.: SAFR SHEET: 3 OF 11



1 FLOOR PLAN
SCALE: J

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SCALE OF FEET

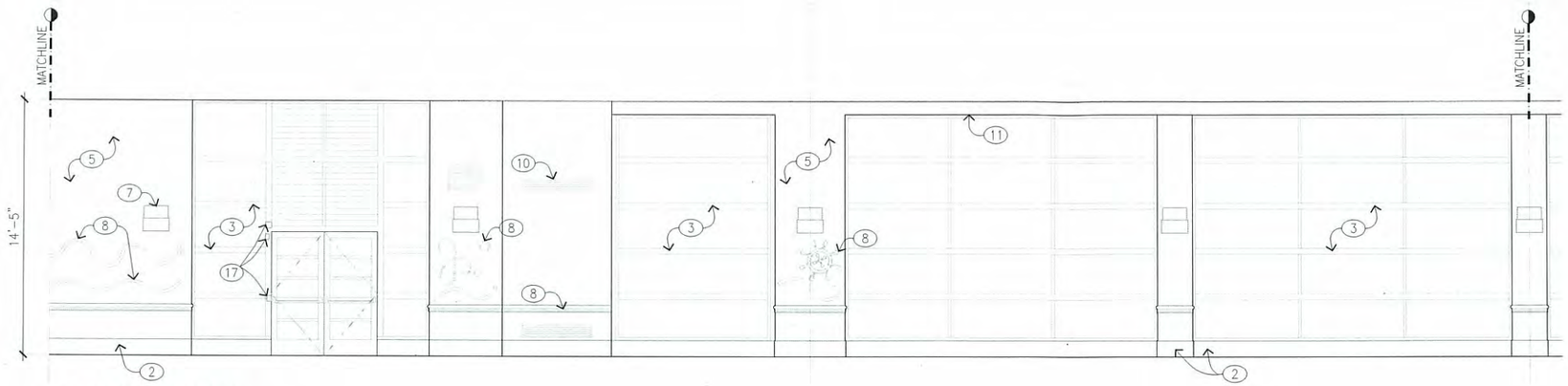
KEY NOTES

1. (E) TERRAZZO FLOOR
2. (E) TERRAZZO BASE
3. (E) STEEL DOORS AND WINDOWS, TYP.
4. (E) PARTIAL HEIGHT GLASS PARTITION
5. (E) PLASTER WALL
6. (E) PLASTER SOFFIT ABOVE SHOWN DASHED
7. (E) WALL SCONCE, TYP.
8. (E) DECORATIVE ROPE FEATURE, TYP.
9. PREPARE AND PAINT (E) WD DOOR, FRAME, AND TRIM. SEAL OPENING DURING CONSTRUCTION.
10. (E) WALL VENTS
11. (E) PLASTER SOFFIT
12. (E) DOOR PUSHBUTTON ACTUATOR
13. MAINTAIN ACCESS TO KITCHEN FROM VERANDA DURING ENTIRE PROJECT DURATION
14. MAINTAIN ACCESS TO ELEVATOR DURING ENTIRE PROJECT DURATION
15. REMOVE PAINT FROM (E) WD DOOR TO REVEAL ORIGINAL PAINTED DESIGN. SEAL OPENING DURING CONSTRUCTION.
16. ~~(E) SPRAY APPLIED ACOUSTICAL CEILING FINISH~~
17. (E) SAFETY & FIRE PROTECTION EQUIPMENT

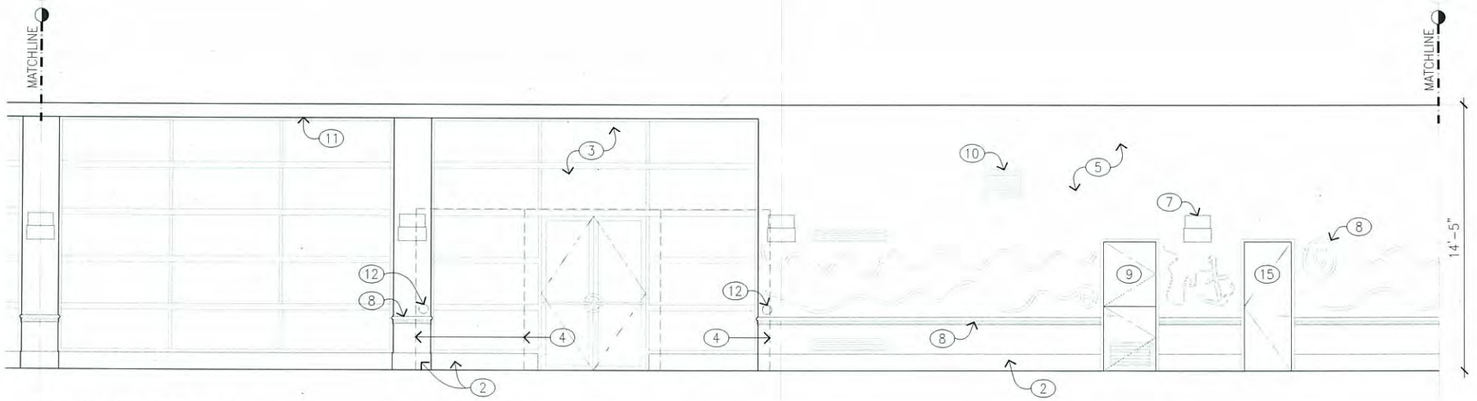
GENERAL NOTES

1. PROTECT (E) ELEMENTS TO REMAIN, INCLUDING BUT NOT LIMITED TO: TERAZZO FLOOR, TERRAZZO BASE, STEEL DOORS AND WINDOWS, GLASS PARTITIONS, AND FIRE DETECTION AND ALARM SYSTEMS.
2. REMOVE WALL SCONCES, DOOR ACTUATORS, COVERS, VENTS, AND SIMILAR ITEMS BEFORE CONSTRUCTION. CLEAN AND REINSTALL AFTER COMPLETION OF PAINTING REPLICATION.
3. PORTIONS OF THE BUILDING WILL BE OPEN DURING CONSTRUCTION. COORDINATE ACCESS WITH CONTRACTING OFFICER.

DESIGNED: DRAWN: LK TECH. REVIEW: DATE: 11/30/12	SUB SHEET NO. A2.0	TITLE OF SHEET: FLOOR PLAN MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	DRAWING NO. 350 114226 PKG. NO. SAFR SHEET 4 OF 11



1 NORTH ELEVATION
SCALE: J



2 SOUTH ELEVATION
SCALE: J

SCALE J 4 0 4 8
SCALE OF FEET

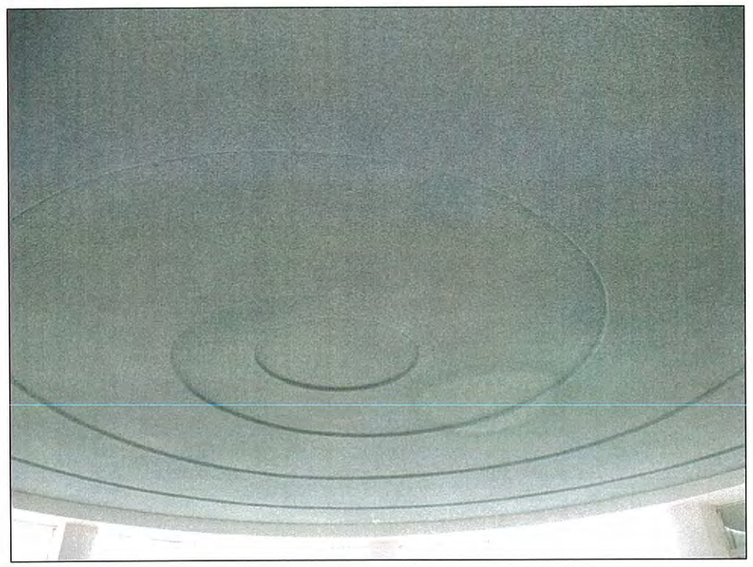
KEY NOTES

1. (E) TERRAZZO FLOOR
2. (E) TERRAZZO BASE
3. (E) STEEL DOORS AND WINDOWS, TYP.
4. (E) PARTIAL HEIGHT GLASS PARTITION
5. (E) PLASTER WALL
6. (E) PLASTER SOFFIT ABOVE SHOWN DASHED
7. (E) WALL SCONCE, TYP.
8. (E) DECORATIVE ROPE FEATURE, TYP.
9. PREPARE AND PAINT (E) WD DOOR, FRAME, AND TRIM. SEAL OPENING DURING CONSTRUCTION.
10. (E) WALL VENTS
11. (E) PLASTER SOFFIT
12. (E) DOOR PUSHBUTTON ACTUATOR
13. MAINTAIN ACCESS TO KITCHEN FROM VERANDA DURING ENTIRE PROJECT DURATION
14. MAINTAIN ACCESS TO ELEVATOR DURING ENTIRE PROJECT DURATION
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16. ~~(E) SPRAY APPLIED ACOUSTICAL CEILING FINISH~~
17. (E) SAFETY & FIRE PROTECTION EQUIPMENT

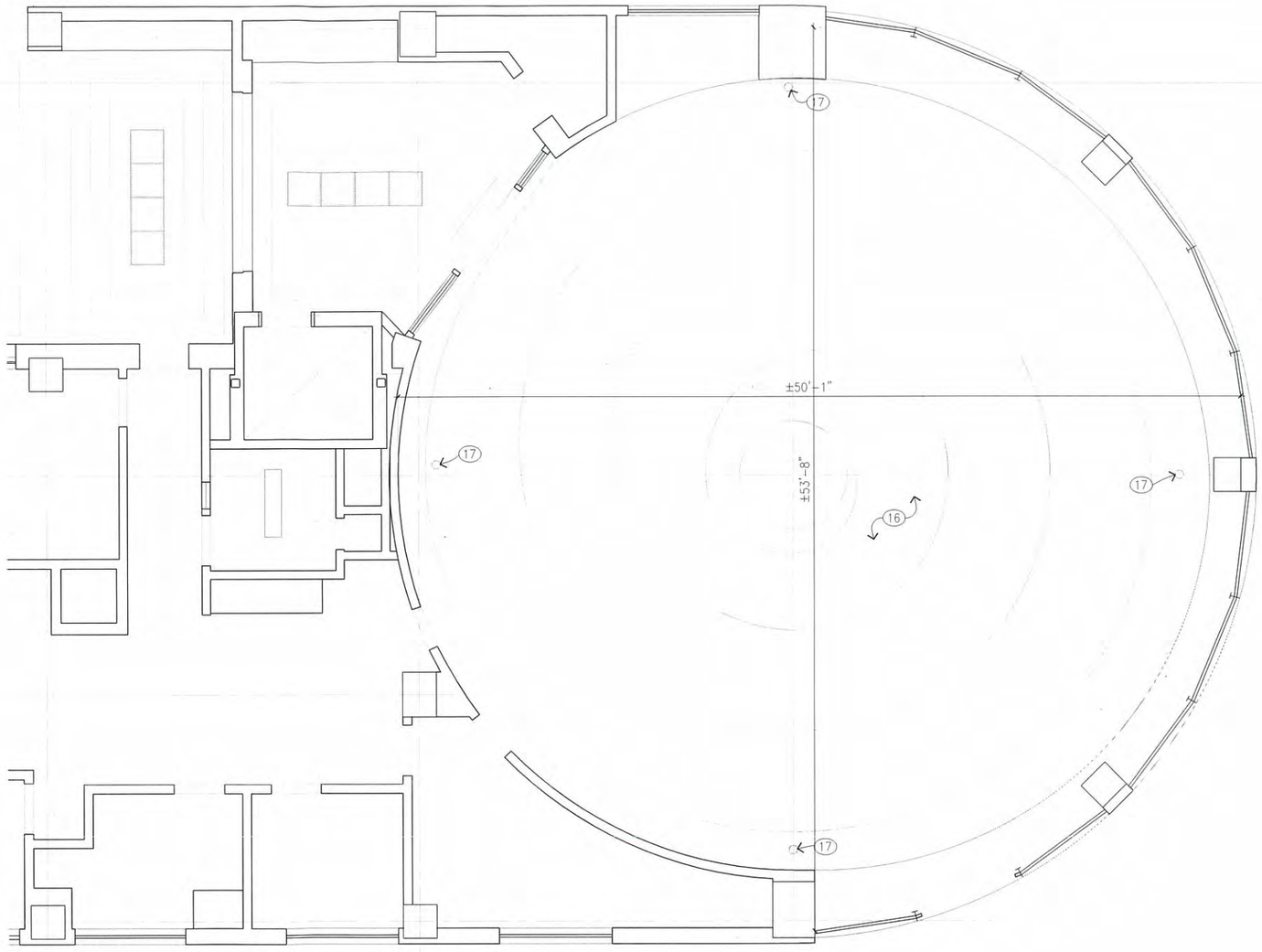
GENERAL NOTES

1. PROTECT (E) ELEMENTS TO REMAIN, INCLUDING BUT NOT LIMITED TO: TERAZZO FLOOR, TERRAZZO BASE, STEEL DOORS AND WINDOWS, GLASS PARTITIONS, AND FIRE DETECTION AND ALARM SYSTEMS.
2. REMOVE WALL SCONCES, DOOR ACTUATORS, COVERS, VENTS, AND SIMILAR ITEMS BEFORE CONSTRUCTION. CLEAN AND REINSTALL AFTER COMPLETION OF PAINTING REPLICATION.
3. PORTIONS OF THE BUILDING WILL BE OPEN DURING CONSTRUCTION. COORDINATE ACCESS WITH CONTRACTING OFFICER.

DESIGNED: LK DRAWN: LK TECH. REVIEW: DATE: 11/30/12	SUB SHEET NO. A3.0	TITLE OF SHEET: INTERIOR ELEVATIONS MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	DRAWING NO. 350 114226 PKG. NO. SAFR SHEET 5 OF 11



2 CEILING EXISTING CONDITIONS
SCALE:



1 REFLECTED CEILING PLAN
SCALE: J

SCALE J 4 0 4 8
SCALE OF FEET

KEY NOTES

1. (E) TERRAZZO FLOOR
2. (E) TERRAZZO BASE
3. (E) STEEL DOORS AND WINDOWS, TYP.
4. (E) PARTIAL HEIGHT GLASS PARTITION
5. (E) PLASTER WALL
6. (E) PLASTER SOFFIT ABOVE SHOWN DASHED
7. (E) WALL SCONCE, TYP.
8. (E) DECORATIVE ROPE FEATURE, TYP.
9. PREPARE AND PAINT (E) WD DOOR, FRAME, AND TRIM. SEAL OPENING DURING CONSTRUCTION.
10. (E) WALL VENTS
11. (E) PLASTER SOFFIT
12. (E) DOOR PUSHBUTTON ACTUATOR
13. MAINTAIN ACCESS TO KITCHEN FROM VERANDA DURING ENTIRE PROJECT DURATION
14. MAINTAIN ACCESS TO ELEVATOR DURING ENTIRE PROJECT DURATION
15. REMOVE PAINT FROM (E) WD DOOR TO REVEAL ORIGINAL PAINTED DESIGN. SEAL OPENING DURING CONSTRUCTION.
16. (E) SPRAY APPLIED ACOUSTICAL CEILING FINISH
17. (E) SAFETY & FIRE PROTECTION EQUIPMENT

Will Be Removed via separate contract

GENERAL NOTES

1. PROTECT (E) ELEMENTS TO REMAIN, INCLUDING BUT NOT LIMITED TO: TERAZZO FLOOR, TERRAZZO BASE, STEEL DOORS AND WINDOWS, GLASS PARTITIONS, AND FIRE DETECTION AND ALARM SYSTEMS.
2. REMOVE WALL SCONCES, DOOR ACTUATORS, COVERS, VENTS, AND SIMILAR ITEMS BEFORE CONSTRUCTION. CLEAN AND REINSTALL AFTER COMPLETION OF PAINTING REPLICATION.
3. PORTIONS OF THE BUILDING WILL BE OPEN DURING CONSTRUCTION. COORDINATE ACCESS WITH CONTRACTING OFFICER.

DESIGNED: EXED LK	SUB SHEET NO. A4.0	TITLE OF SHEET: REFLECTED CEILING PLAN MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	DRAWING NO. 350 114226
TECH. REVIEW:			PKG. NO. SAFR
DATE: 11/30/12			SHEET 6 OF 11

-John



1960 SF Examiner Aquatic Park Beach Press Photo #3

APPENDIX B:

ARG Analysis:

Paint Removal Testing
Ceiling
Window Soffit

JOHN CANNING & CO LTD
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Part II: Bay View Room Paint Exposure Windows

Background

The Bay View Room is a circular space at the East end of the Aquatic Bathhouse Building, featuring stainless steel floor-to-ceiling windows overlooking Aquatic Park. The ceiling of the room is a plaster relief spiral covered in a painted textured coating. The terrazzo floor and baseboard reflect the nautical color schemes used throughout the building. The walls are decorated with a chair rail and various nautical designs made from different thicknesses of rope embedded in the plaster. Many of the wall surfaces are covered in sheets of canvas that were originally painted in broad horizontal bands of blue and bluish-green color, an effect that evokes the appearance of sunlight as it shines through water. Currently, the walls and rope designs are painted white.



The curved walls of the Bay View Room, including applied rope designs, are currently painted white.

In 1994, ARG was contracted to identify the historic colors used on the Bay View Room walls. Samples were collected to examine paint layer stratigraphies and visually match the original paint layers to proprietary color swatches from a paint manufacturer. Paint exposures or "reveals" were carried out on the wall and rope designs, where all the paint was removed except for the original color layer. Color matches were established using Fuller O'Brien Paints color swatches. The following historic colors were identified for the horizontal bands and applied rope designs:

Location	**1994 Color Match**
Below Rope Chair Rail	Fuller O'Brien Fulcolor Blue D-10
Rope Chair Rail and Decorative Rope Designs	Fuller O'Brien Fulcolor Gray H-61
Immediately Above Chair Rail	Fuller O'Brien Fulcolor D-99
Uppermost Portion of Wall	Fuller O'Brien Fulcolor Pale Blue E-46
Door Frames	Gray Blue D-133

The purpose of the current investigation is to gain an understanding of the design originally depicted on the walls of the Bay View Room by removing linear strips of overpainting to expose original painted surfaces.

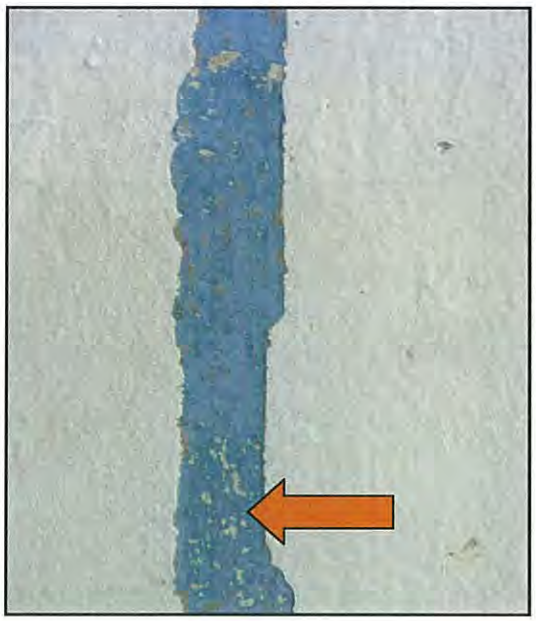
Methodology

In January 2010, ARG visited the Aquatic Bathhouse to carry out paint exposure windows on the Bay View Room walls. ARG conservators installed a paint exposure from floor to ceiling next to the window bay adjacent to the door to the Terrace. Paint exposure windows were implemented mechanically by scraping layers of overpainting with steel blades to reveal original painted surfaces. An exposure window on one wall was installed in a vertical strip to capture transition areas where horizontal bands of color were originally painted. All work was documented with color digital photography.

Color Schemes

Five major color zones were identified, ranging from dark blue below the chair rail to light bluish green at the ceiling. The color zones are not distinctly separate; rather, there are at least seven transition areas where multiple paint colors are layered over one another to form a gradient effect. In addition, the original color zones appear to have been created by layering one shade of paint over another. The following color zones were observed in the paint exposure, from floor to ceiling:

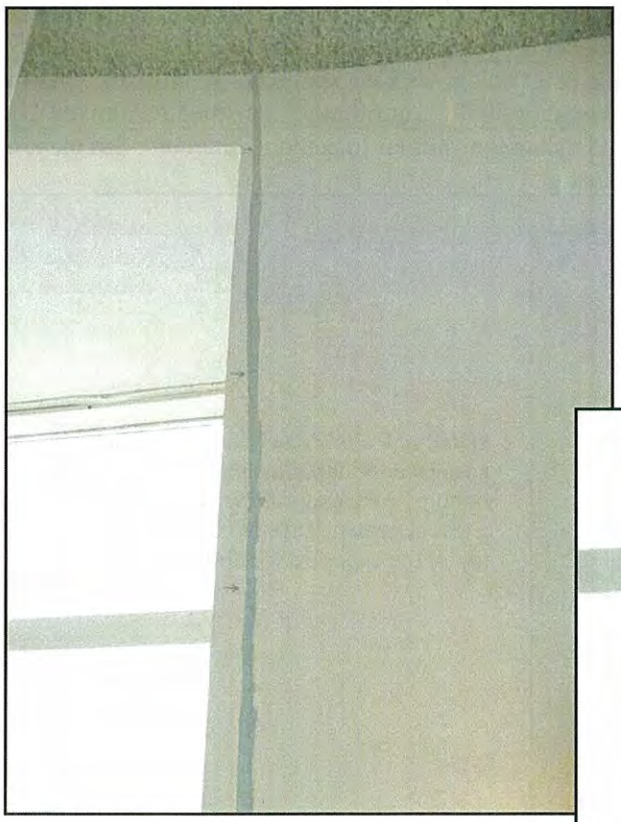
Color Zone	Paint Description
I	Below chair rail. Dark blue paint below with a thin layer of paler (less saturated) medium blue paint on top. Paint layers are stable.
II	Immediately above the chair rail. Dark turquoise blue paint below with a thin layer of paler (less saturated) medium blue paint on top. Paint layers are stable.
III	Turquoise blue paint below with a thin layer of paler (less saturated) blue paint on top. Paint layers are relatively stable, some crazing of top layer.
IV	Mottled bluish green, multiple paint colors visible, paint tends to chip off. Possible glaze or varnish that is yellowing, probably contributing to brittleness of paint layers.
V	At top of wall. Top layer is bluish green, similar to ceiling paint color (green paint underneath). Top layer is crazing.



Detail of Color Zone I, below the chair rail. A base layer of dark blue paint (revealed at the bottom of the exposure window) was covered by a less saturated shade of blue paint, visible at the top of the exposure window.

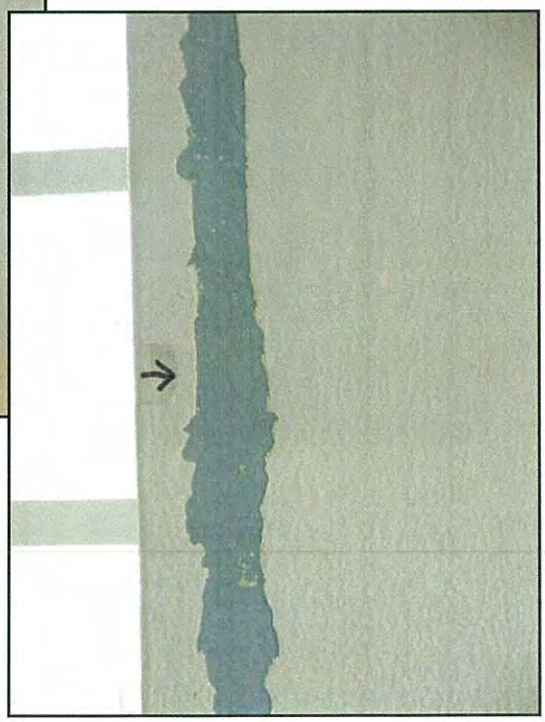
Transition areas create gradients between color zones by blending paint colors, creating a seamless shift from one color to another. Seven transition areas were identified within the paint exposure:

Transition Area	Location (approximate)
1	5'6" from floor level
2	6'11" from floor level
3	7'10" from floor level
4	9'1" from floor level
5	10'6" from floor level
6	11'8" from floor level
7	13'8" from floor level



Left: Arrows point to transition areas at the top half of the wall.

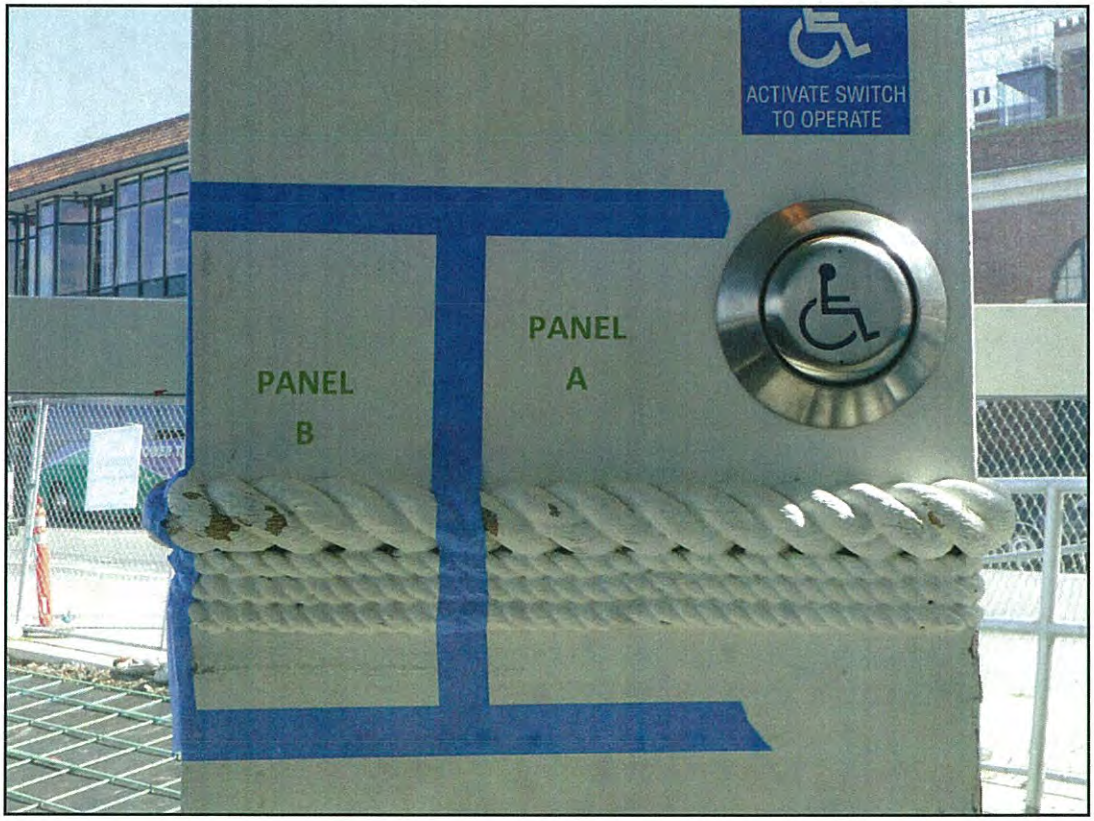
Below: A detail of Transition Area 2 shows the subtle gradation of colors, including crazing of the top paint layer at the upper half of the photo.



Paint Removal Testing, March 8-9, 2010

Project Background

The purpose of this project is to investigate possible restoration methods for the historic mural painted on the walls of the Bay View Room in the Aquatic Park Bathhouse Building at San Francisco Maritime National Historical Park (SAFR) in San Francisco, California. Currently the polychrome mural (consisting of horizontal bands of bluish-green paint applied over canvas adhered to the walls) is obscured by multiple layers of overpainting. Overpainting is a term used in conservation to describe paint that has been applied unnecessarily to cover decorative elements. Methods for removing overpainting were tested at a pier located east of the Beach Street entrance to the San Francisco Senior Center in the Bay View Room.



Test panels A and B in the Bay View Room.

Test Panel A

Test Panel A is 2.5 inches wide and 7.5 inches high (18.75 square inches), and includes an area of flat wall covered by painted canvas above the decorative rope wainscot. Paint was removed in this panel by manual scraping with a stainless steel blade, requiring one half hour to scrape the paint from the test panel area. Multiple layers of white and off-white overpaint were removed easily; however, a layer of light brown paint directly over the original mural painting was tightly adhered. Removal of the light brown paint resulted in damage to original blue paint below.



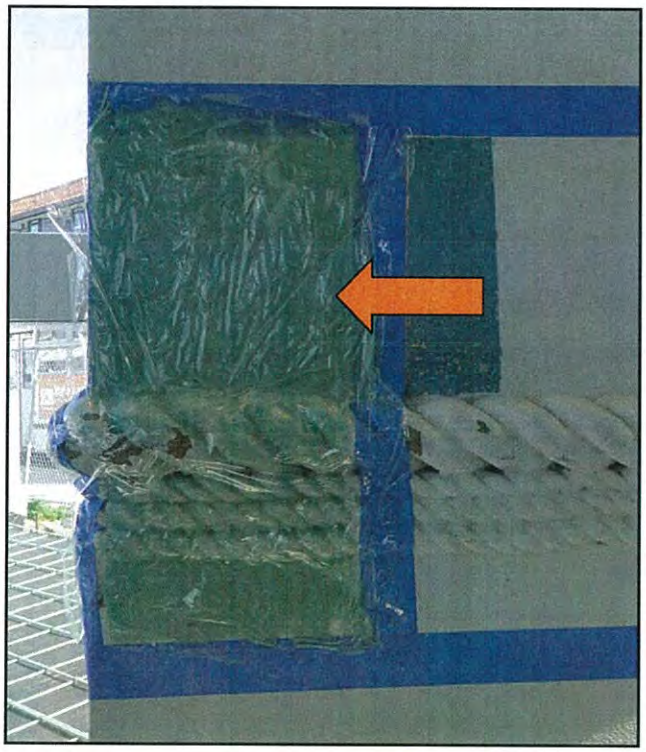
Test Panel A: The paint in this area was scraped off in half an hour.



Detail of Test Panel A: Scraping results in an unacceptable level of damage to the original paint layers of the mural.

Test Panel B

Test Panel B is 8 inches wide and 14 inches high, and encompasses flat wall areas covered by painted canvas as well as the decorative rope wainscot. A paste paint stripper, Back to Nature Ready Strip Paint and Varnish Remover, was applied to this area and allowed to dwell for 21 hours. The test panel was scraped using hand tools including a plastic scraper and nylon scrubber, as well as a steel blade at deep crevices in the rope design. The paint stripper readily softened several layers of white and off-white overpaint, but was not as effective in removing a layer of light brown paint directly over the original mural painting. Still, both the light brown paint and mural paint layers were softened; attempts to scrape off the softened light brown paint resulted in the removal of original paint layers. The paint stripper was relatively successful in softening overpaint on the rope elements, but the complex shape and texture of the rope slowed the work. Test Area B was scraped for one hour.



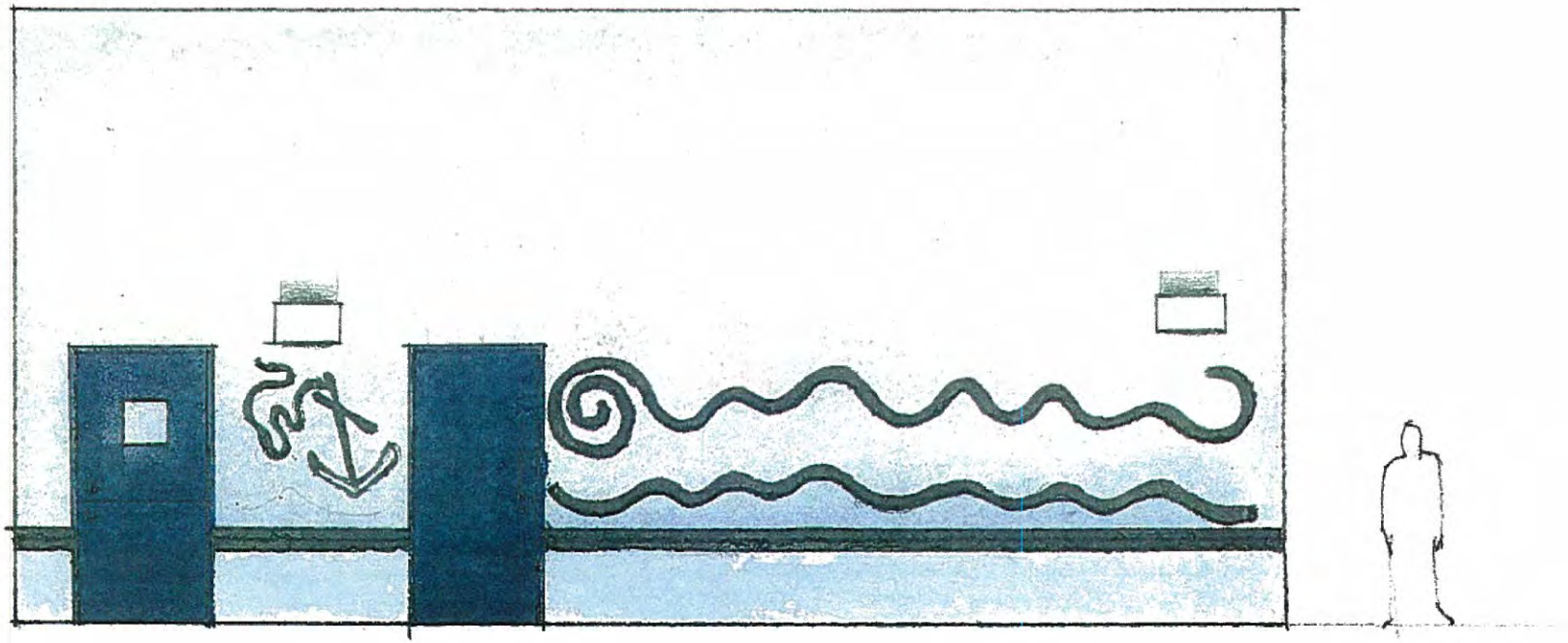
Paint stripper was applied to Test Area B and allowed to dwell overnight.



Paint stripper softened layers of overpaint as well as original paint layers.

Conclusions

Preliminary paint removal tests indicate that mechanical removal (scraping) of overpaint results in an unacceptable loss of original paint layers. Chemical paint removal has a better potential for removing overpainting, especially at the decorative rope elements. Further testing of chemical solvents will be necessary to identify appropriate materials and dwell times to prevent damage to original paint layers.



BAYVIEW ROOM. NATIONAL MARITIME MUSEUM.

MARITIME MUSEUM
NATIONAL PARK SERVICE
SAN FRANCISCO, CA

PAINT ANALYSIS OF BAYVIEW ROOM'S CEILING



Prepared for:
The National Park Service San Francisco Maritime
Building E, Fort Mason Center, 2nd Floor
San Francisco, CA 94123

Prepared by:
Architectural Resources Group
Pier 9 Embarcadero

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IV. EXISTING CONDITIONS……4

V. RECOMMENDATIONS

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VI. APPENDICES

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APPENDIX B: Paint Exposure……7

APPENDIX C: Historic Photograph……8

APPENDIX D: Reflected Ceiling Plan……8

I. INTRODUCTION

The Maritime Museum is in the process of interior and exterior preservation work. In August of 2012, ARG was contacted by the National Park Service at the San Francisco Maritime Museum to conduct a paint analysis of the Maritime Museum's Bayview Room to determine the historic paint colors and match them to a commercial paint for repainting. This report addresses the ceiling which couldn't be sampled or examined until abated of hazardous materials (asbestos).

Project Team

Client: The National Park Service San Francisco Maritime
Todd Bloch, Historical Architect

Conservators: Architectural Resources Group
David Wessel, Principal in Charge
Dena Kefallinos, Conservator

II. METHODOLOGY

A total of 13 samples were extracted from the ceiling on Dec. 23rd, 2013. The paint samples were separately packaged, numbered 1-13, and labeled with the location from which they were taken (Appendix A). A ladder on site aided in the collection of the paint samples. Each sample was strategically chosen and areas with water damage were avoided. All samples were taken with a X-Acto knife with the appropriately shaped blade depending on the surface (plaster or canvas) so that the substrate could be taken without inflicting any significant surface damage. All samples were then microscopically examined in the lab using an Olympus G10X microscope and Fiber-Lite Illuminator M1-150, where their color stratigraphies were recorded. Combined with microscopic analysis of the color stratigraphies and historical research, the historical colors within these stratigraphies were targeted and matched to a commercial paint manufacturer (Sherwin Williams). Please note that the terminology for the ceiling is shown in Appendix B.

III. EXISTING CONDITIONS

The Bayview Room is circular in plan. The ceiling has a spiral design that consists of five spirals. Each spiral moves inwards towards the center of the room while ascending, making the center of the ceiling or spiral the highest point in the room. The ceiling is similar to other rooms within the Maritime Museum; it is a plaster ceiling with a painted canvas covering. However, unlike other rooms at the Maritime Museum, the Bay View Room ceiling has experienced a history of many repairs and has been plastered over several times due to water damage. The historical layer of interest, the canvas layer, was completely covered in several plaster layers, one containing asbestos which had to be removed. Upon the completion of the abatement of the asbestos layers preceding the historic canvas later, a paint analysis of the ceiling was conducted.

IV. FINDINGS

Microscopic analysis of the paint samples revealed the historical color of the canvas ceiling to be uniformly painted a light gray-blue color. Portions of the ceiling near the windows were revealed to be a red-orange, perhaps trying to simulate the sunset that is visible through the Bayview Room's windows. Small paint exposures were conducted on the ceiling near the windows to determine the point or color transition of the ceiling from red-orange to light gray-blue. The paint exposures determined that the ceiling was orange in color until the first spiral or return of the ceiling that is light gray-blue (Appendix B). The historic paint colors were then matched to a commercial paint manufacturer (Sherwin Williams) for repainting and are stated in the upcoming recommendations portion of the .

The light gray-blue color and red-orange color correlate with historical literature and evidence. A photograph of a historic matchbox and historical literature that describes the Bayview Room as the "blue room" confirms the color findings (Appendix C).

V. RECOMMENDATIONS

It is recommended that the ceiling be painted to its historic colors as shown in Figure 1. The window soffits and areas of the ceiling before the first ceiling return should be painted Sherwin Williams' 6882 Daredevil, and that the canvas ceiling should be painted Sherwin Williams' 6520 Honest Blue (Figure 1). Please note that a reflected ceiling plan of how the ceiling should be painted is in Appendix D.

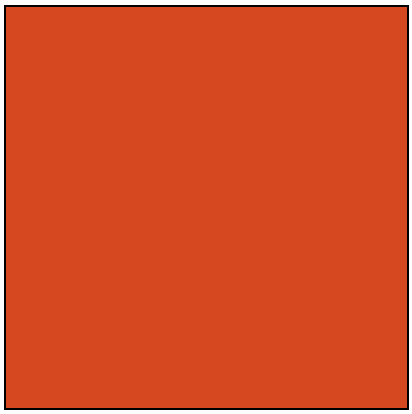
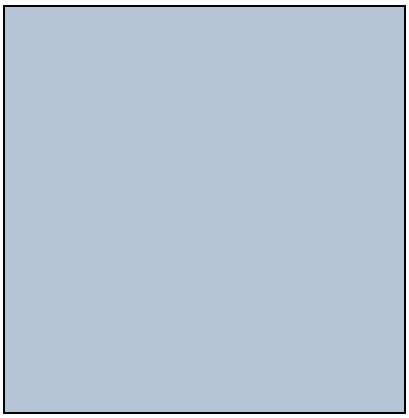
1.  2. 

*Figure 1: Please note that because the paint swatches above were taken from the Sherwin Williams' online website (*http://www.sherwin-williams.com*), they are not accurate representations of the matched colors of the Bayview Room's ceiling. (1) SW 6883 Daredevil (2) SW 6520 Honest Blue.*

VI. APPENDICES

Appendix A

Sample Notes

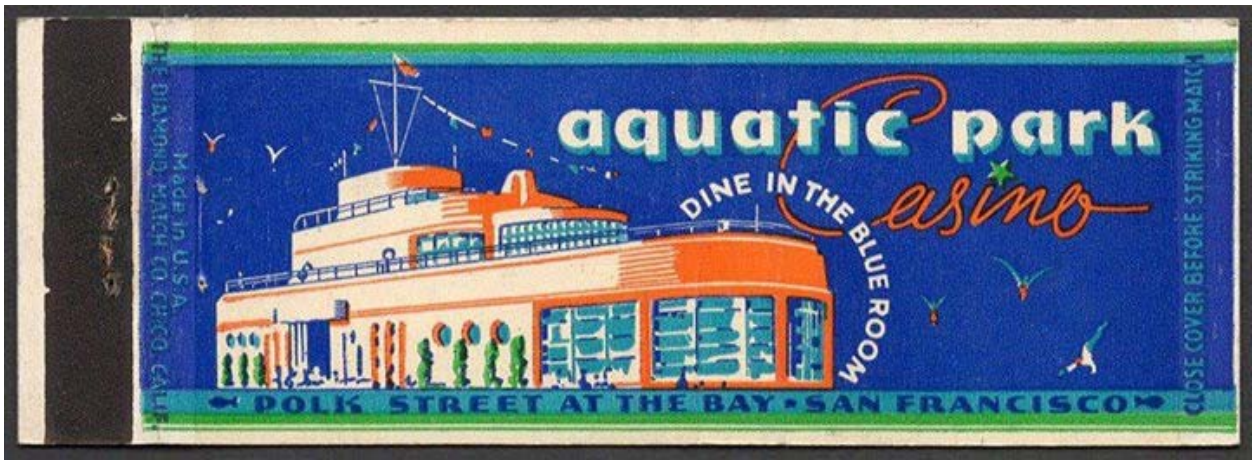
Sample No.	Location	Layers	Commercial Paint Match	Notes
1	Ceiling, before 1st vertical	plaster, light gray-blue, red-orange, light brown, beige, white	SW 6882 Daredevil	
2	1st vertical	light gray-blue, light brown, beige, white	SW 6520 Honest Blue	
3	Ceiling, after 1st vertical	primer, light gray-blue	SW 6520 Honest Blue	Difficult area to extract sample, paint crumbly
4	2nd vertical	canvas, primer, light gray-blue	SW 6520 Honest Blue	
5	Ceiling, after 2nd vertical	canvas, primer, light gray-blue	SW 6520 Honest Blue	Sent to Susan Buck for analysis
6	3rd vertical	light gray-blue	SW 6520 Honest Blue	unclear read, possibly scraped too far
7	Ceiling, after 3rd vertical	canvas, primer, light gray-blue	SW 6520 Honest Blue	unclear read, possibly scraped too far
8	4th vertical	light gray-blue	SW 6520 Honest Blue	
9	Ceiling, after 4th vertical	canvas, primer, light gray-blue	SW 6520 Honest Blue	paint crumbly, difficult read
10	5th vertical	canvas, primer, light gray-blue	SW 6520 Honest Blue	canvas piece heavily scraped
11	Center ceiling	canvas, primer, light gray-blue	SW 6520 Honest Blue	
12	Window	metal (aluminum), white	SW 7000 Ibis White	
13	Door	wood, primer, blue, white	SW 6522 Sporty Blue	thin coats

Appendix B



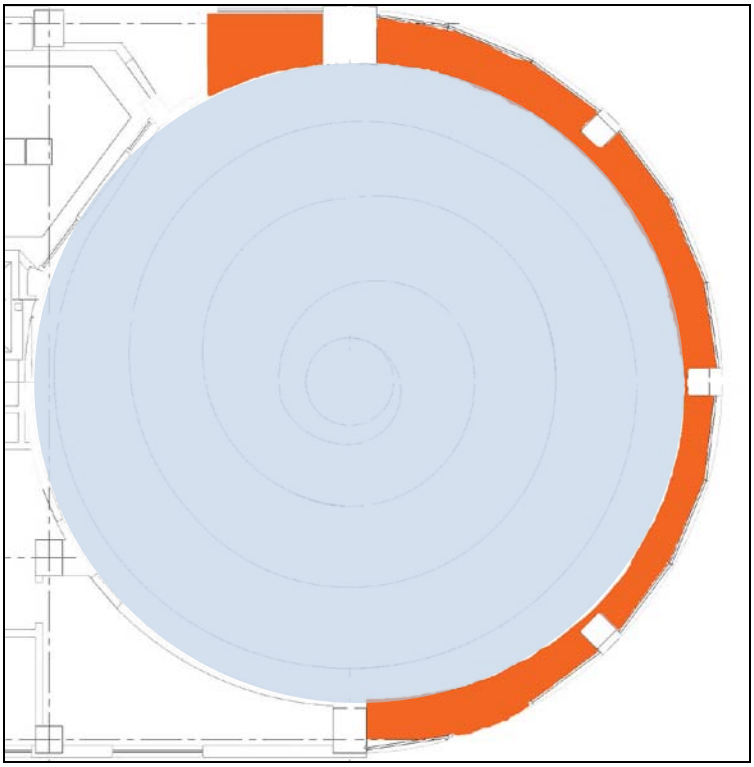
The above photograph is of paint exposure to assess the point of color transition from red-orange to light gray-blue color (December 23, 2013).

Appendix C



The above image is a photograph of a matchbox circa the historical time period of interest, showcasing the Bayview Room formerly known as the Aquatic Park Casino (Ebay.com, 2013).

Appendix D



The above drawing is of a reflected ceiling plan roughly illustrating the general color scheme of the ceiling.

CROSS-SECTION MICROSCOPYANALYSIS RESULTS

Client: Dena Kefallinos, Architectural Conservator
Architectural Resources Group, Inc.
Pier 9, The Embarcadero, San Francisco, CA 94111
Sample 5. Painted canvas on ceiling

Date: February 3, 2014

Conservator: Susan L. Buck, Ph.D.
303 Griffin Avenue
Williamsburg, VA 23185

Equipment: Nikon Eclipse 80i with EXFO X-Cite 120 Fluorescence Illumination System fiberoptic halogen light source and polarizing light base using SPOT Advanced software (v. 4.6) for digital image capture and Adobe Photoshop CS for digital image management.
UV Filter: UV-2A excitation 330-380 nm, dichroic mirror 400nm, barrier filter 420 nm, BV-2A filter excitation 380-420 nm, barrier filter 450 nm. .
Magnifications: 40X, 100X, 200X
Biological Stains:

Triphenyl tetrazolium chloride (TTC) 4.0% in ethanol to identify the presence of carbohydrates (starches, gums, sugars). Positive reaction color is dark red or brown.
N-(6-methoxy-8-quinolyl)-p-toluenesulfonamide (TSQ) 0.2% in ethanol to mark the presence of zinc in the cast cross-section. Positive reaction color is bright blue-white.
2, 7 Dichlorofluorescein (DCF) 0.2% in ethanol for saturated (pink reaction) and unsaturated (yellow reaction) lipids.

Staining Reactions:

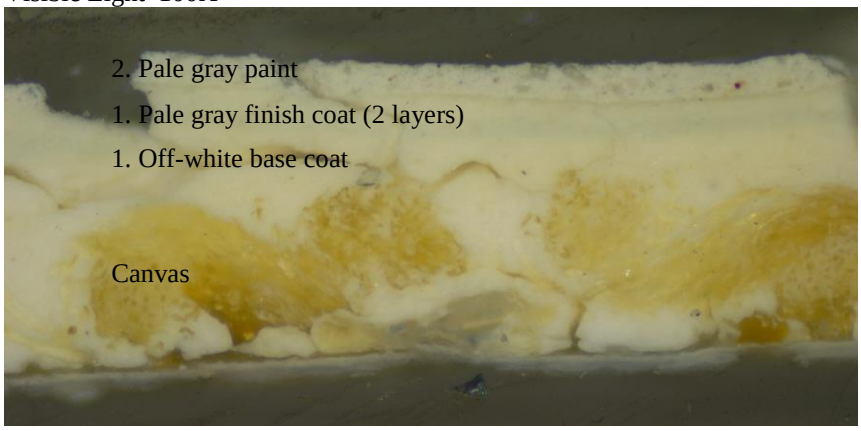
TTC: Strong positive reaction for carbohydrates in generation 2. Weak positive reaction in generation 1.
TSQ: Strong positive reaction in generation 2.
DCF: Strong positive reaction for saturated lipids in generation 2. Positive reactions for saturated and unsaturated lipids in generation 1.

Background: The goal of this analysis is to determine, if possible, the original paint on the canvas that was applied on top of the plaster ceiling in the Bayview Room at the Maritime Museum (previously built as a bathhouse in 1939) in San Francisco. Later plaster was recently removed, leaving the original canvas with several paint layers remaining on its surface. If the original paint remains it will be color-matched for replication.

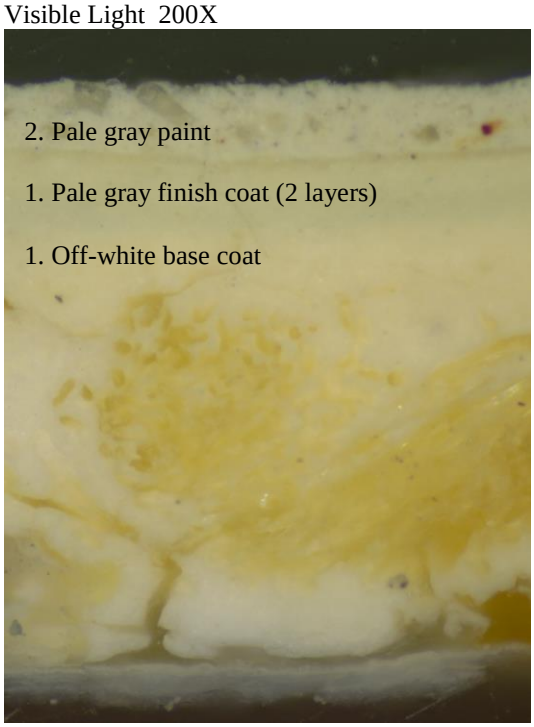
Results: Cross-section microscopy analysis shows that there are two generations of paint on top of the ceiling canvas. The first generation consists of an off-white primer which penetrated deeply into the woven canvas substrate. The original finish coat consists of two layers of pale gray paint which vary slightly in color, but the second, slightly lighter, gray finish was applied before layer below had dried as there is no boundary or border between the two coatings. The second generation consists of a dull light gray paint which is some coarser than the original paint. There are distinct differences in composition, in part because the second paint generation is comparatively fresher and thus reacted more strongly for oils. The second paint generation also reacted positively for zinc (zinc white), which was not found in the original paints.

Sample 5. Painted canvas on ceiling.

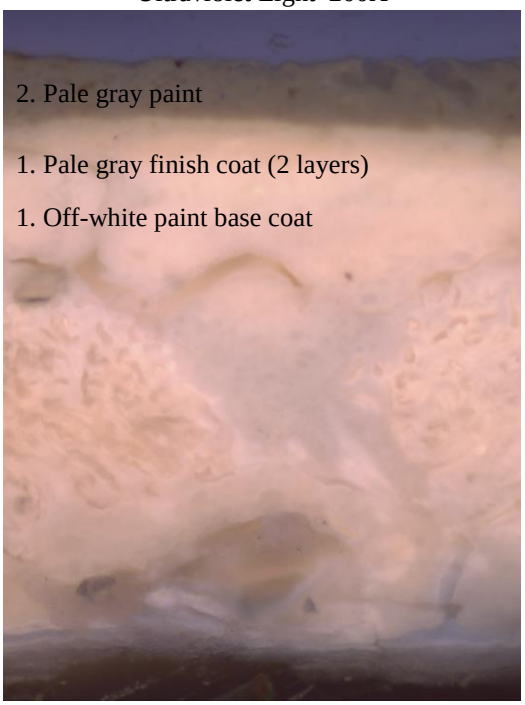
Visible Light 100X



Visible Light 200X

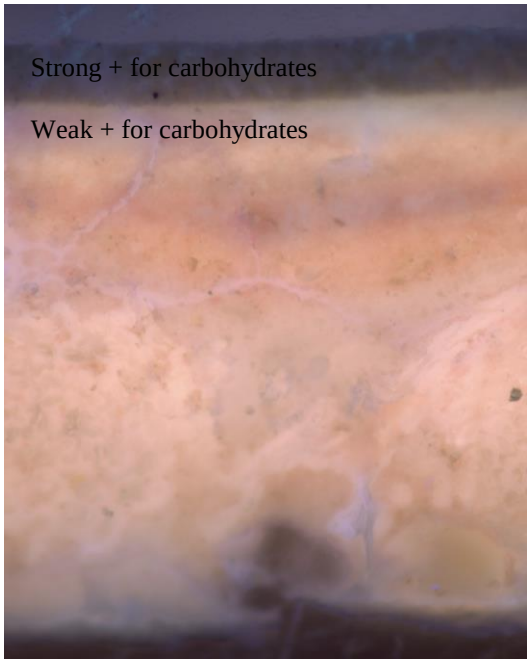


Ultraviolet Light 200X

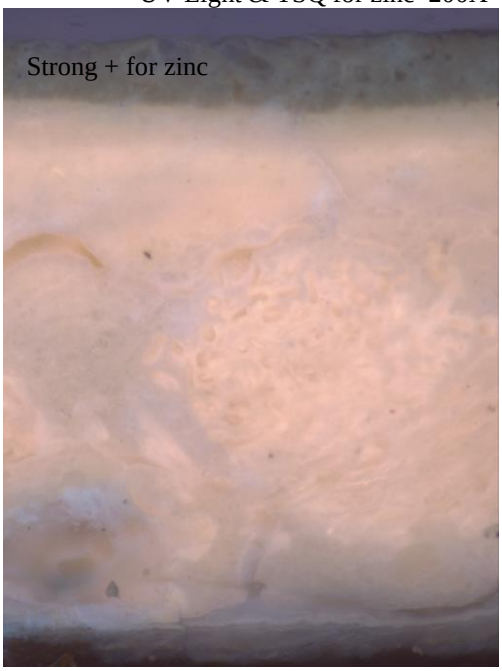


Sample 5. Painted canvas on ceiling.

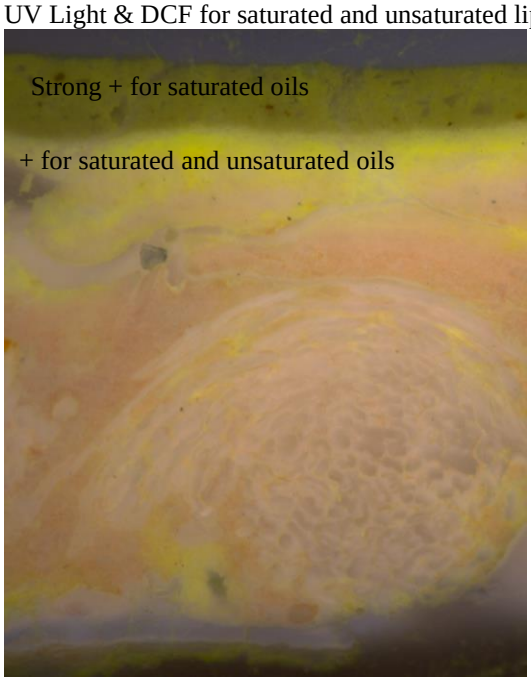
UV Light & TTC for carbohydrates 200X



UV Light & TSQ for zinc 200X



UV Light & DCF for saturated and unsaturated lipids (oils) 200X



Original Pale Gray Paint on Ceiling Canvas

Color Match – February 3, 2014[a]

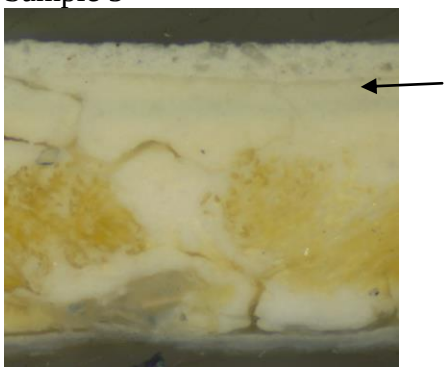
Sample 5

Color System*			Coordinates
Munsell	Hue	Value	Chroma
	7.7Y	8.6	1.3
CIE L*a*b*	Black to White	Green to Red	Blue to Yellow
	L87.37	a-1.99	b+9.56

Benjamin Moore OC-30 "Gray Mist"

Color System*			Coordinates
Munsell	Hue	Value	Chroma
	5.1Y	8.7	1.1
CIE L*a*b*	Black to White	Green to Red	Blue to Yellow
	L87.82	a- 1.07	b+7.71

Sample 5



The commercial match and the original pale gray paint on the canvas are very good numerical matches in the CIE Lab color system. The primary difference is that the Benjamin Moore match #OC-30 is just slightly less yellow (the "b" value) than the original pale gray paint. The Benjamin Moore match #OC-30 is also an excellent visual match to the best preserved areas of the earliest paint when examined in full spectrum light both at 30X magnification and unmagnified. The evidence suggests that that this layer was quite matte and could be replicated in flat gloss level.

[a] Color matching conducted after cross-section microscopy analysis by Susan L. Buck, Ph.D., Conservator and Paint Analyst, with a Minolta Colorimeter CR-241.

*** COLOR SYSTEMS** – Derived from the Minolta CR-241 Instruction Manual and Minolta Precise Color Communication

Chroma Meter CR-241 offers five different color systems for measuring absolute chromaticity: CIE Yxy (1931), L*a*b* (1976), and L*C*H* (1976) colorimetric densities DxDyDz; Munsell notation and four systems for measuring color differences.

For two colors to match, three quantities defining color must be identical. These three quantities are called tristimulus values X, Y, and Z as determined by CIE (Commission Internationale de l'Eclairage) in 1931.

Color as perceived has three dimensions: hue, chroma and lightness. Chromaticity includes hue and chroma (saturation), specified by two chromaticity coordinates. Since these two coordinates cannot describe a color completely, a lightness factor must also be included to identify a specimen color precisely.

Munsell Color System: The Munsell color system consists of a series of color charts which are intended to be used for visual comparison with the specimen. Colors are defined in terms of the Munsell Hues (H; indicates hue), Munsell Value (V; indicates lightness), and Munsell Chroma (C; indicates saturation) and written as H V/C.

CIE Yxy (CIE 1931): In the Yxy (CIE 1931) color system, Y is a lightness factor expressed as a percentage based on a perfect reflectance of 100%, x and y are the chromaticity coordinates of the CIE x, y Chromaticity Diagram.

CIE L*a*b*: Equal distances in the CIE x,y Chromaticity Diagram do not represent equal differences in color as perceived. The CIE L*a*b* color system, however, more closely represents human sensitivity to color … Equal distances in this system approximately equal perceived color differences. L* is the lightness variable; a* and b* are the chromaticity coordinates

ΔE (Delta E) is the industry measure used to determine how closely two colors match in the CIE L*a*b*. The symbol Δ means "the change in". It is based on calculating the sum of the differences between each measure. The calculation is: $\Delta E = \sqrt{(L^*)^2 + (a^*)^2 + (b^*)^2}$, or, the color difference equals the square root of the squared sums of the differences between each of the three L* a* b* tristimulus values. Industry color standards indicate a ΔE of 1 is barely perceptible to the human eye, and ΔE of 6 to 7 is acceptable for color matches in the printing industry.

CROSS-SECTION MICROSCOPYANALYSIS RESULTS

Client: Dena Kefallinos, Architectural Conservator
Architectural Resources Group, Inc.
Pier 9, The Embarcadero, San Francisco, CA 94111
Sample 1. Window soffit sample. Ceiling near first vertical, near window.

Date: February 9, 2014

Conservator: Susan L. Buck, Ph.D.
303 Griffin Avenue
Williamsburg, VA 23185

Equipment: Nikon Eclipse 80i with EXFO X-Cite 120 Fluorescence Illumination System fiberoptic halogen light source and polarizing light base using SPOT Advanced software (v. 4.6) for digital image capture and Adobe Photoshop CS for digital image management.
UV Filter: UV-2A excitation 330-380 nm, dichroic mirror 400nm, barrier filter 420 nm, BV-2A filter excitation 380-420 nm, barrier filter 450 nm. .
Magnifications: 40X, 100X, 200X
Biological Stains:

Triphenyl tetrazolium chloride (TTC) 4.0% in ethanol to identify the presence of carbohydrates (starches, gums, sugars). Positive reaction color is dark red or brown.
N-(6-methoxy-8-quinolyl)-p-toluenesulfonamide (TSQ) 0.2% in ethanol to mark the presence of zinc in the cast cross-section. Positive reaction color is bright blue-white.
2, 7 Dichlorofluorescein (DCF) 0.2% in ethanol for saturated (pink reaction) and unsaturated (yellow reaction) lipids.

Staining Reactions:

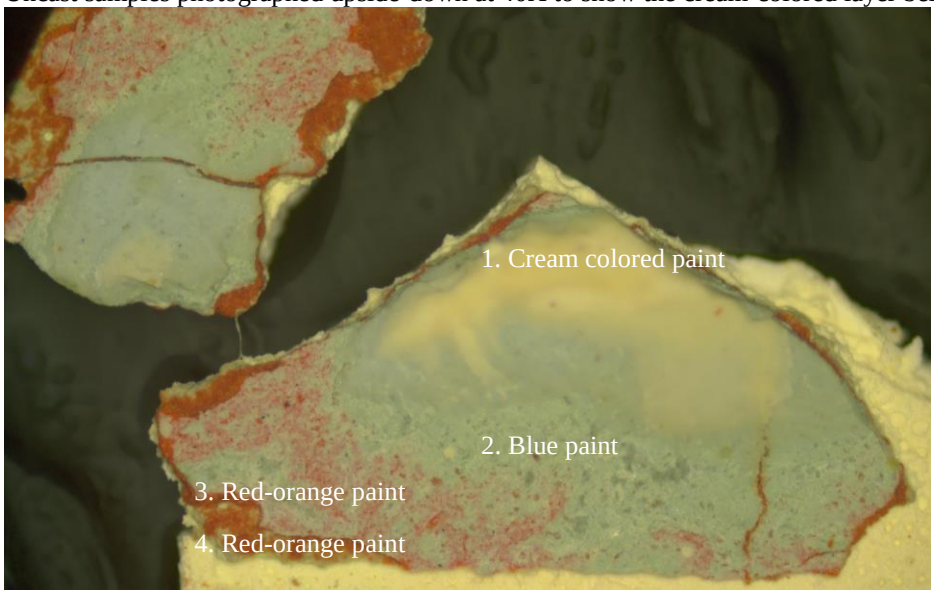
TTC: Strong positive reaction for carbohydrates in all paint layers.
TSQ: Strong positive reactions for zinc in all paint layers.
DCF: Strong positive reaction for saturated lipids in all paint layers.

Background: The goal of this analysis is to determine, if possible, the nature and timing of the the red-orange-colored paint layer that was applied to the canvas on top of the plaster ceiling in the Bayview Room: "The finish of interest is located in the window soffits of the Bayview Room. The window soffit sample enclosed in this envelope unfortunately does not have its canvas substrate attached. There is a red-orange colored paint layer that we would like to know if it is related to the historic blue-colored paint underneath it".[a]

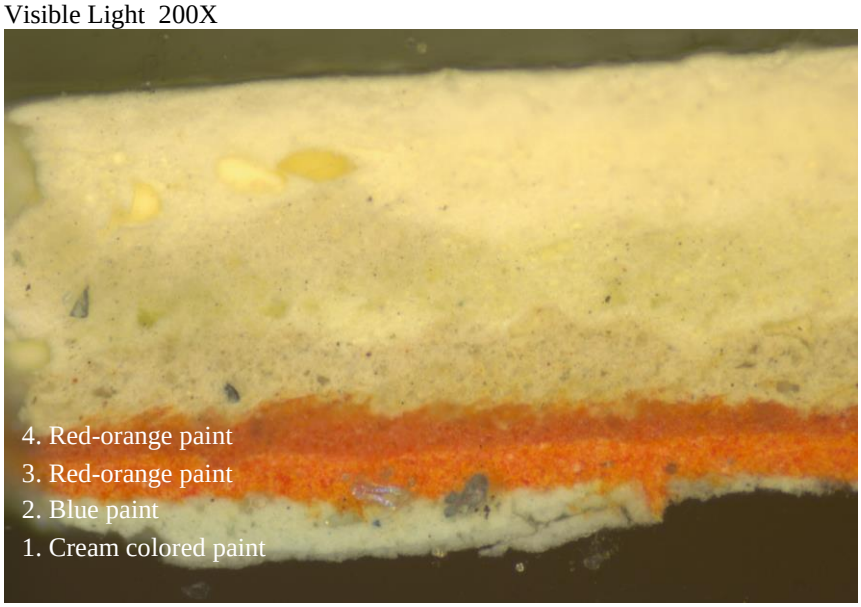
Results: Cross-section microscopy analysis shows that the first layer on the canvas is a pale cream-colored paint. This cream-colored paint became somewhat fractured before the "historic blue-colored paint" was applied, but perhaps it was intended as a preparatory layer, not a finish coat. Two separate generations of red-orange paint were applied after the blue paint had cracked and eroded, so the red-orange color is a distinctly later decorative treatment. The second layer of red-orange paint was then later painted over with thickly applied tan and then off-white paints.

[a] Correspondence, Dena Kefallinos, February 4, 2014.

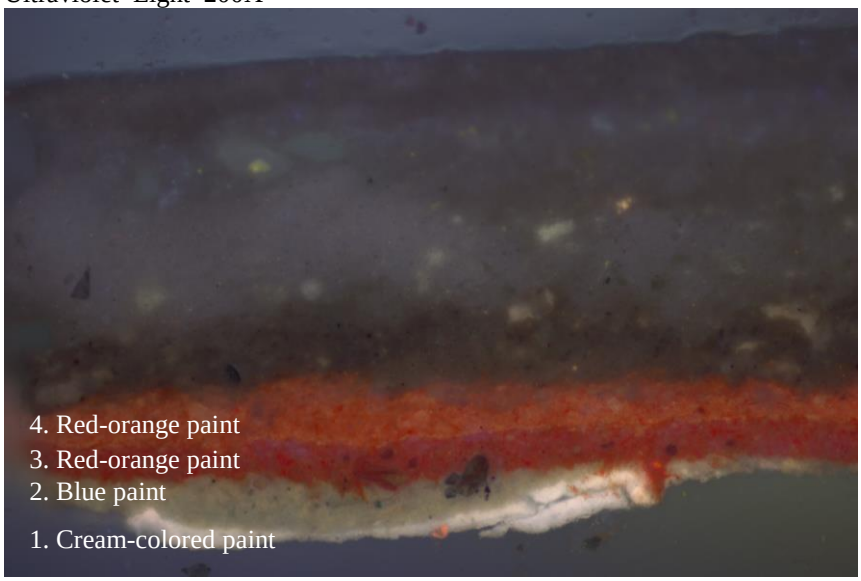
Uncast samples photographed upside-down at 40X to show the cream-colored layer below the blue paint.



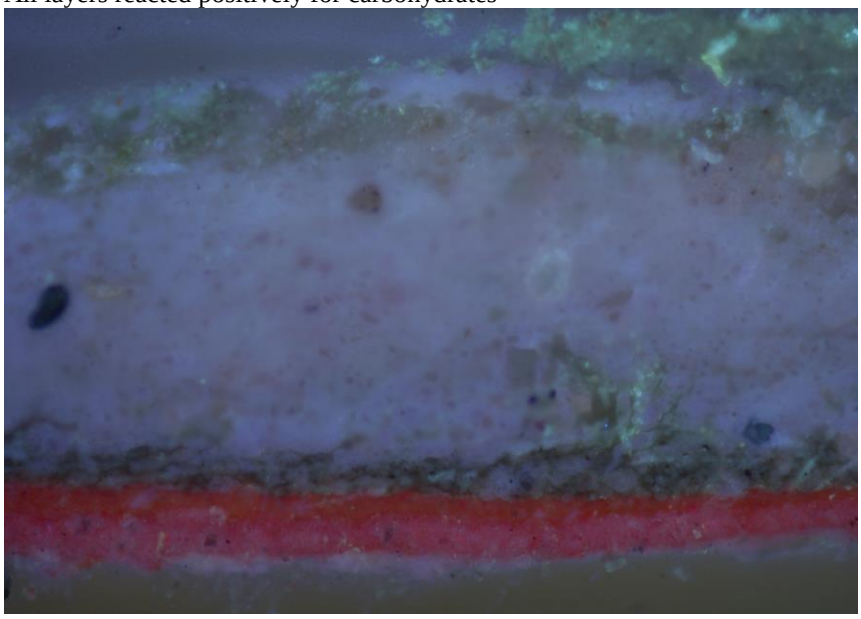
Sample 1. Window soffit sample.
Visible Light 200X



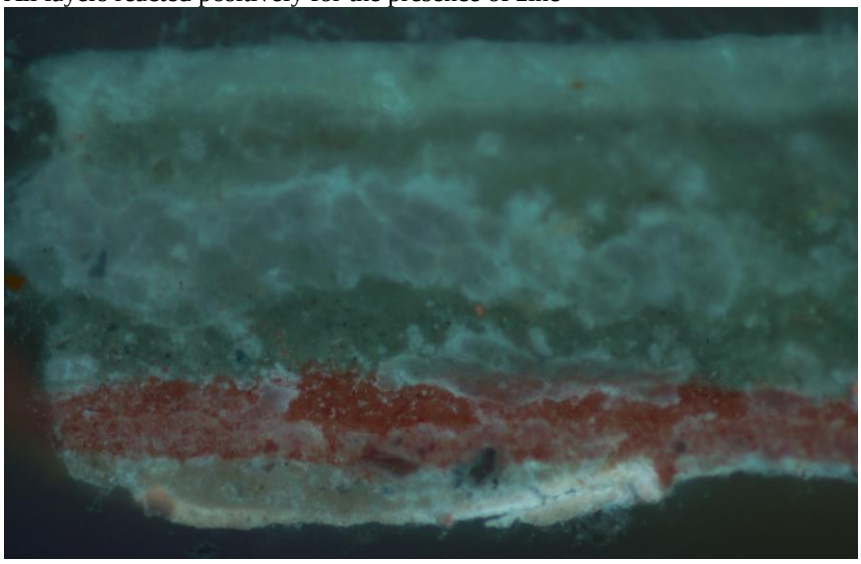
Sample 1. Window soffit sample.
Ultraviolet Light 200X



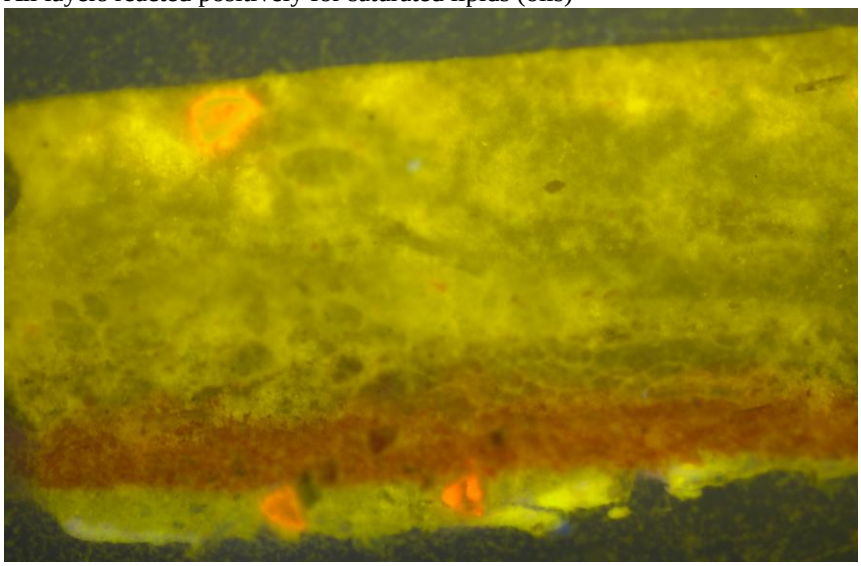
UV Light & TTC for carbohydrates 200X
All layers reacted positively for carbohydrates



Sample 1. Window soffit sample.
UV Light & TSQ for the presence of zinc 200X
All layers reacted positively for the presence of zinc



UV Light & DCF for saturated and unsaturated lipids 200X
All layers reacted positively for saturated lipids (oils)



Historic Blue Paint on Ceiling Canvas

Color Match – February 9, 2014[b]

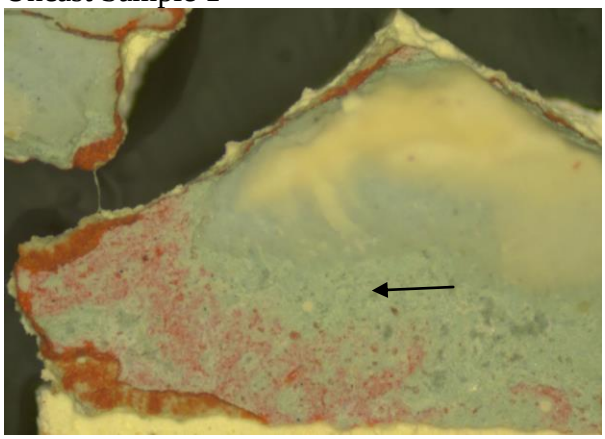
Sample 1

Color System*			Coordinates
Munsell	Hue	Value	Chroma
	1.1BG	7.2	1.7
CIE L*a*b*	Black to White	Green to Red	Blue to Yellow
	L73.45	a-8.0	b+0.1

Benjamin Moore HC-149 "Buxton Blue"

Color System*			Coordinates
Munsell	Hue	Value	Chroma
	5.1B	7.0	1.9
CIE L*a*b*	Black to White	Green to Red	Blue to Yellow
	L70.63	a-6.23	b-5.62

Uncast Sample 1



The commercial match and the historic blue paint on the canvas are very good numerical matches in the CIE Lab color system. The primary difference is that the Benjamin Moore match #HC-149 is just slightly more blue (the "b" value) than the blue paint on the canvas. The Benjamin Moore match #HC-149 is also an excellent visual match to the best preserved areas of this paint when examined in full spectrum light both at 30X magnification and unmagnified. The evidence suggests that that this layer was quite matte and could be replicated in flat gloss level.

[b] Color matching conducted after cross-section microscopy analysis by Susan L. Buck, Ph.D., Conservator and Paint Analyst, with a Minolta Colorimeter CR-241.

*** COLOR SYSTEMS** – Derived from the Minolta CR-241 Instruction Manual and Minolta Precise Color Communication

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For two colors to match, three quantities defining color must be identical. These three quantities are called tristimulus values X, Y, and Z as determined by CIE (Commission Internationale de l'Eclairage) in 1931.

Color as perceived has three dimensions: hue, chroma and lightness. Chromaticity includes hue and chroma (saturation), specified by two chromaticity coordinates. Since these two coordinates cannot describe a color completely, a lightness factor must also be included to identify a specimen color precisely.

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CIE Yxy (CIE 1931): In the Yxy (CIE 1931) color system, Y is a lightness factor expressed as a percentage based on a perfect reflectance of 100%, x and y are the chromaticity coordinates of the CIE x, y Chromaticity Diagram.

CIE L*a*b*: Equal distances in the CIE x,y Chromaticity Diagram do not represent equal differences in color as perceived. The CIE L*a*b* color system, however, more closely represents human sensitivity to color … Equal distances in this system approximately equal perceived color differences. L* is the lightness variable; a* and b* are the chromaticity coordinates

ΔE (Delta E) is the industry measure used to determine how closely two colors match in the CIE L*a*b*. The symbol Δ means "the change in". It is based on calculating the sum of the differences between each measure. The calculation is: $\Delta E = \sqrt{(L^*)^2 + (a^*)^2 + (b^*)^2}$, or, the color difference equals the square root of the squared sums of the differences between each of the three L* a* b* tristimulus values. Industry color standards indicate a ΔE of 1 is barely perceptible to the human eye, and ΔE of 6 to 7 is acceptable for color matches in the printing industry.

APPENDIX C:

JCS Finishes Investigation:

Finishes Investigation Report
Photography Log
Photographs

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS
150 Commerce Court | Cheshire CT | 06410
www.canning-studios.com | 203-272-9868

Maritime Museum Building
Bay View Room
San Francisco, CA

Limited Paint Finishes Investigation

January 26, 2014



JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Prepared By:
David Riccio, PA AIC
John Canning Studios
150 Commerce Court
Cheshire, CT 06410

As part of the current finishes restoration project, John Canning Studios examined the existing finishes, exposed the original treatments, evaluated existing coating systems to determine if adhesion is adequate; evaluated original canvas lining, provided approximate color matches of original treatment, documented findings and made recommendations for decorative paint restoration.

An exposure is an area where layers of over-paint are removed to reveal the original finishes. Paint exposures were carried out by David Riccio from January 9th through January 14th. These efforts were aided by previous paint examination reports prepared by Architectural Resources Group (ARG).

In 1994, ARG identified the historic color palette. In March of 2010, ARG provided a limited paint examination of the walls by exposing swatches of the original decoration.

BACKGROUND:

The Bay View Room is a circular space at the east end of the Aquatic Bathhouse Building, featuring stainless steel floor–to-ceiling windows overlooking Aquatic Park. The ceiling of the room is plaster relief spiral covered in a painted textured coating. The terrazzo floor and baseboard reflect the nautical color schemes used throughout the building. The walls are decorated with a chair rail and various nautical designs made from different thicknesses of rope embedded in the plaster. Many of the wall surfaces are covered in sheets of canvas that were originally painted in broad horizontal bands of blue and bluish-green color, an effect that evokes the appearance of sunlight as it shines through water. Currently, the walls and rope designs are painted white. The curved walls of the Bay View Room, including applied rope designs, are currently painted white. (except from ARG 2010 Report)

Under a separate contract, the referenced "painted textured coating" was removed in its entirety, exposing the current off-white painted canvas ceiling covering. The window frames were replaced several years ago with painted metal at the interior and stainless steel at the exterior. The wood framed window and door partisan separating the Bay View Room from the connecting Veranda is original. Adjacent to the room is a services kitchen that is accessed by a set of "in-and-out" doors. The original doors were wood with applied geometric shapes also cut from wood. Only one door remains; the other is a modern metal door.

PAINT PROCEEDURE:

In-situ mechanical and chemical exposures were made using applications of commercially available methyl chloride based paint removers. Scalpels with #23 blades and straight blade razors were used to remove activated paint layers. Acetone solvent mixes were applied and wiped away with cotton wool to clean exposed paint layers. The most recent paint layers were removed to reveal the original method of execution and blended color glaze treatment. Where possible, a small area of the glaze coat within an exposure was then removed to reveal the base coat. All exposures were carried out and observed using magnified lenses and concentrated lighting. Exposure locations are annotated on attached drawings.

FINDINGS:

Decorative mural treatment: Multiple exposures were prepared for evaluation at walls, ceiling, and doors. (attached drawings illustrates locations). Generally, the exposures revealed an "aquatic" themed treatment that transitions in color from a deep ultra-marine blue at the wainscot level to a light/pale greenish-blue at the upper reaches of the wall. The ceiling was painted in a pale yellowing-green color that relates to the wall colors. The 2" face (reveal) of the ceiling spiral motif is treated with the same color at the upper wall. This provided just a subtle distinction between vertical and horizontal surfaces. Both the ceiling and walls were initially prepared with canvas that provided a textured surface for the finish treatment.

The wall treatment was executed in two primary steps:

1. The ground paint (opaque) was likely applied in stages, starting with the pale green-blue applied at the upper section and followed by the ultramarine blue at the lower section. The colors were then blended together at the midpoint section. The paint was "oiled" allowing greater open time and manipulation for blending.

2. A colored over glaze was applied in a similar manner as the ground paint, however, the glaze finish was translucent, which allowed the ground color to visually blend and mingle with the over glaze colors.

The final effect, when viewed from inside the room provides an appearance that is in harmony with and is an extension of the view of the San Francisco Bay.

The historic kitchen door was polychromed in a representative color palette of the terrazzo floor. The various geometric shapes were "picked out" in these colors to emphasize the abstract composition.

The woodwork at the Veranda entrance was painted in a deep blue color similar to the a blue found at the kitchen door. This color may have been used for the original window frames. Further discussion with ARG will be necessary to determine what color to paint these window frames. As previously noted, these window frames were replaced in recent years.

Rope Decoration:

Exposures at various locations have turned up two possible treatments. At several locations we observed the blue wall decorative color treatment applied to the rope mouldings. This treatment appears to be thin and fragile. However, in some instances, especially at the large rope moulding, the treatment is only found where the rope abuts the wall, and not over the field (or front side) of the rope. In these cases, an opaque blue/gray color is observed having a uniformed application applied to the rope moulding in its entirety. This paint covers the blue walls decorative finish.

There are two possibilities for these varied findings. The first is the rope moulding matched the decorative wall treatment. The second possibility is that the painter's allowed the blue finish to encroach upon the rope moulding when applying it to the walls with the intention of painting the mouldings the gray/blue opaque finish after the wall treatment was installed. Canning Studios has asked ARG to prepare a color analysis of the moulding. However, the treatment may not be fully determined until the mockup phase when both options are sampled.

Traditionally, when rope is used as an applied decorative treatment, it is often singed to remove stray fibers, then sealed with shellac.

At interior corners where the rope moulding terminates, it is capped with a chrome plated cast metal ornament, however, the metal ornament has been over-painted with subsequent paint campaigns.

Substrate Structure and Canvas

The substrate is comprised of standard three-coat plaster over metal lath, which would be expected for a building of this period. In general, the substrate is in sound condition other than expected cosmetic damage from wear and tear, and localized water intrusion primarily at the window areas. Also, there are two locations at the ceiling that exhibit water damage and associated previous gross repairs.

The canvas is a light weight cotton weave and is adhered to the plaster substrate with adhesive. The adhesive solubilizes in water, which is indicative of a protein adhesive, such as wheat paste. For the most part, the canvas is in good working order. However, at the walls there are adhesion failures, most notably at the water intrusion locations. The ceiling has suffered greater material loss and localized detachment of canvas from the substrate. The damage is a combination of factors that include water intrusion , weight of textured paint (recently removed), and the associated removal of the textured paint, which would be expected. Detached canvas will require reattachment and conservation.

We conducted twenty-five paint adhesion test sites using the ASTM D3359 procedures at the walls and ceiling, and found the paint coatings at the walls and ceiling surfaces are generally sound. However, there are localized exceptions that require removal and/or surface preparation. Photographs of test results are attached.

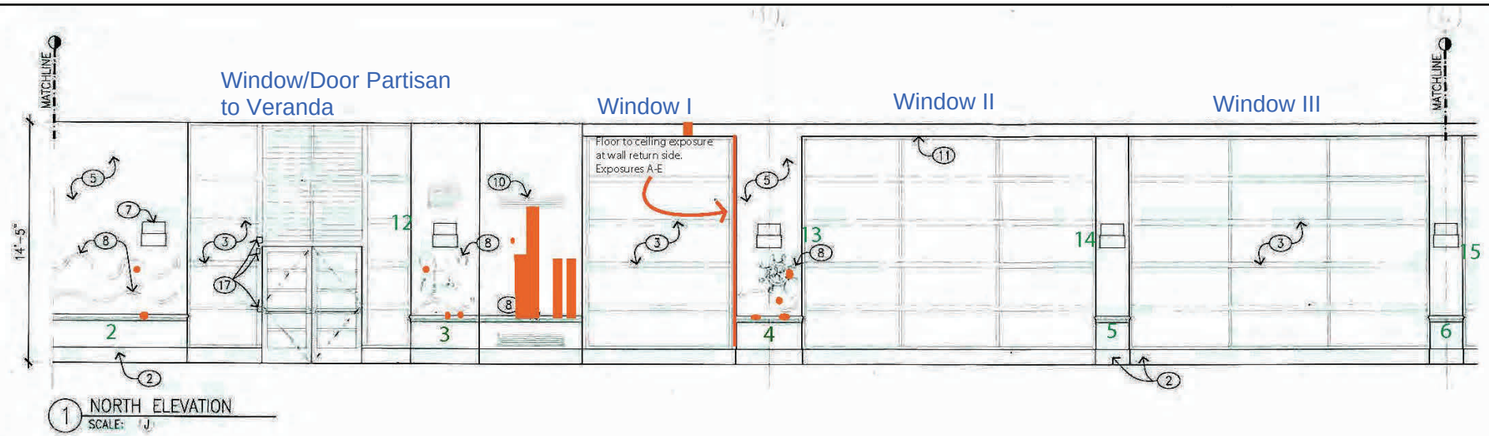
Through paint exposures, we observed the ceiling had been painted three times. The initial decorative treatment followed with an off-white/gray that has been exposed after the texture coating was recently removed. The original finish and the subsequent off-white/gray paint appear to be oil that has oxidized to a hard finish.

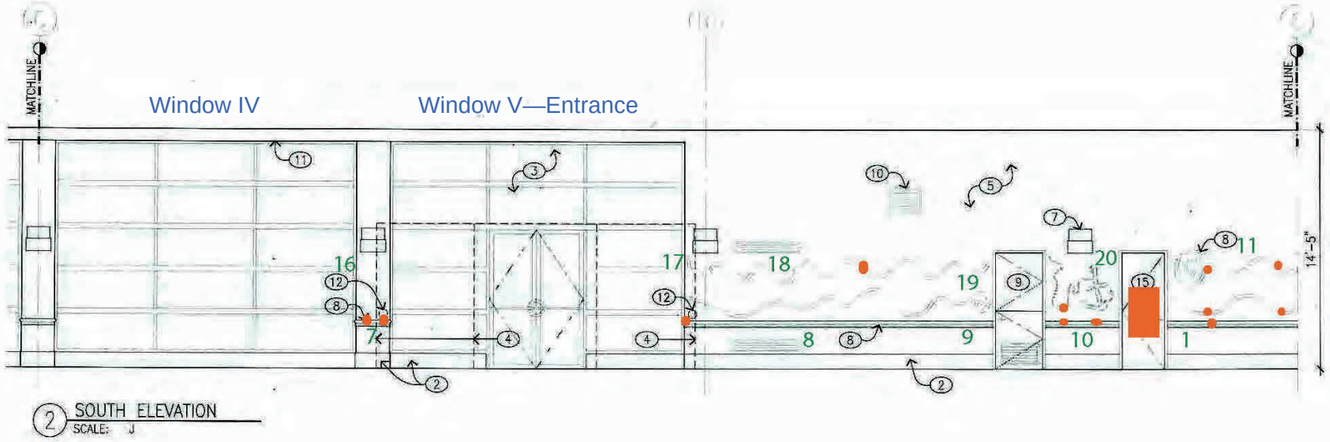
The walls have been over-painted at least three separate times. The original Treatment was painted over with a brown/taupe color, followed with gray, and possibility two campaigns of white.

RECOMMENDATIONS:

1. Repair plaster substrate at water damaged locations. Repair damaged plaster caused by wear and tear. This work will include the removal of previous gross repairs at the ceiling.
2. Existing wall and ceiling canvas to repaired where damaged. Replace losses and unsalvageable canvas with new. Smooth out seams as best as possible. Reattached torn canvas where required using reversible adhesive. Areas where plaster substrate is exposed clean substrate and canvas back to remove existing adhesive followed with readhering canvas using high quality commercial wallpaper adhesive. Areas where canvas is detached, inject Beva conservation gel using a syringe.
3. Areas that require localized paint removal, use chemical paint remover and razor blade type scrapers (and other small tools) to remove paint layers down to a sound surface.
4. Color match original treatments, colors and finishes in the field.
5. Mockup original decorative treatment using paints and glazing materials that provides the best blending results. This may include sampling oil paints and glaze, and/or customizing finishes and formulas.
6. Reinstate original decorative mural treatment to simulate original appearance.
7. Strip and refinish kitchen door to match original appearance.
8. Remove paint at metal rope caps to reveal chrome finish.
9. Prior to project completion, provide recommendations for handling of restored mural.

❍❍❍❍





Exposure location

Adhesion test location

Drawing not to scale. Exposure locations are approximate.

SCALE 0 4 8 SCALE OF FEET

KEY NOTES

1. (E) TERRAZZO FLOOR
2. (E) TERRAZZO BASE
3. (E) STEEL DOORS AND WINDOWS, TYP.
4. (E) PARTIAL HEIGHT GLASS PARTITION
5. (E) PLASTER WALL
6. (E) PLASTER SOFFIT ABOVE SHOWN DASHED
7. (E) WALL SCONCE, TYP.
8. (E) DECORATIVE ROPE FEATURE, TYP.
9. PREPARE AND PAINT (E) WD DOOR, FRAME, AND TRIM. SEAL OPENING DURING CONSTRUCTION.
10. (E) WALL VENTS
11. (E) PLASTER SOFFIT
12. (E) DOOR PUSHBUTTON ACTUATOR
13. MAINTAIN ACCESS TO KITCHEN FROM VERANDA DURING ENTIRE PROJECT DURATION
14. MAINTAIN ACCESS TO ELEVATOR DURING ENTIRE PROJECT DURATION
15. REMOVE PAINT FROM (E) WD DOOR TO REVEAL ORIGINAL PAINTED DESIGN. SEAL OPENING DURING CONSTRUCTION.
16. ~~(E) SPRAY APPLIED ACOUSTICAL CEILING FINISH~~
17. (E) SAFETY & FIRE PROTECTION EQUIPMENT

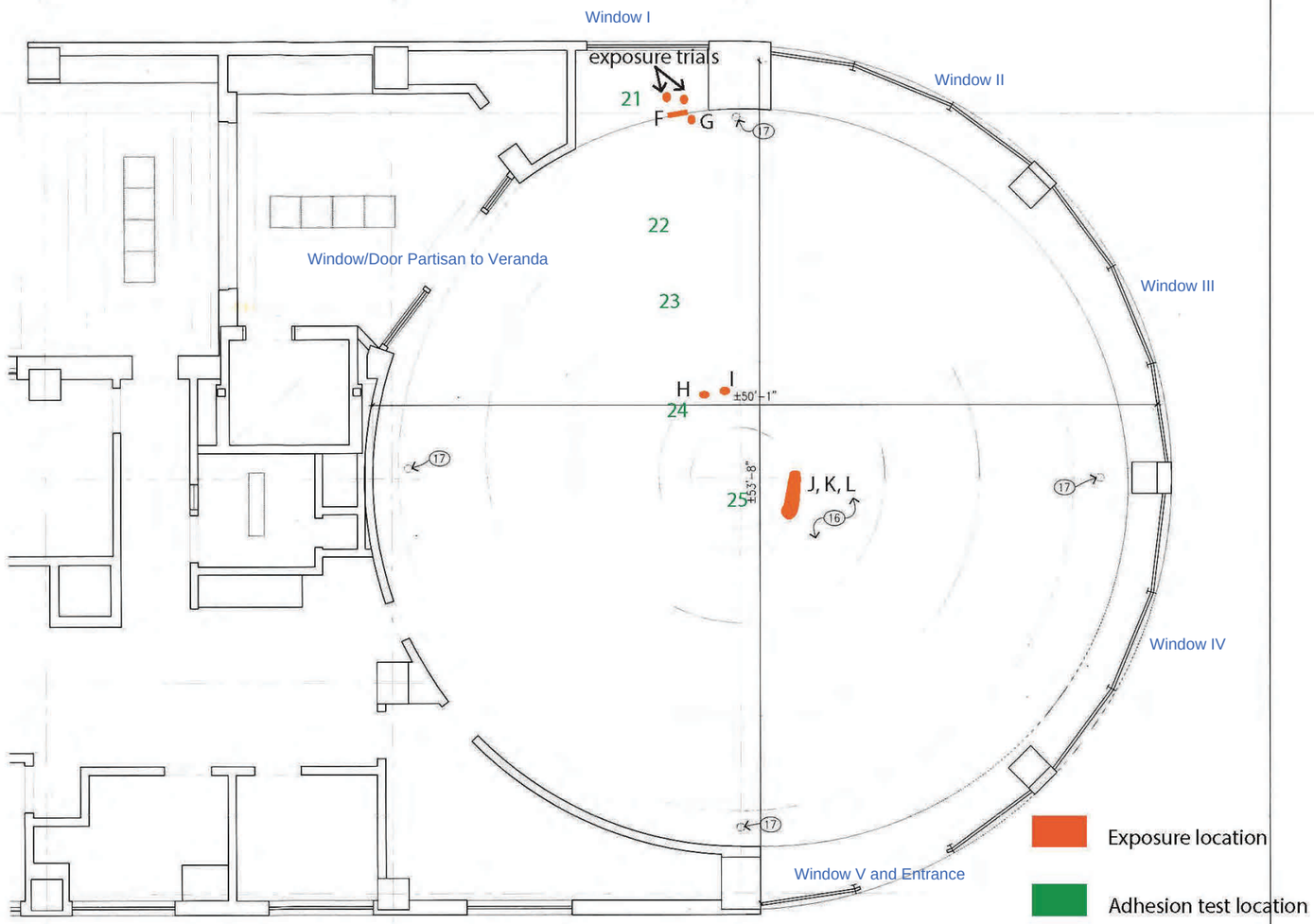
GENERAL NOTES

1. PROTECT (E) ELEMENTS TO REMAIN, INCLUDING BUT NOT LIMITED TO: TERAZZO FLOOR, TERRAZZO BASE, STEEL DOORS AND WINDOWS, GLASS PARTITIONS, AND FIRE DETECTION AND ALARM SYSTEMS.
2. REMOVE WALL SCONCES, DOOR ACTUATORS, COVERS, VENTS, AND SIMILAR ITEMS BEFORE CONSTRUCTION. CLEAN AND REINSTALL AFTER COMPLETION OF PAINTING REPLICATION.
3. PORTIONS OF THE BUILDING WILL BE OPEN DURING CONSTRUCTION. COORDINATE ACCESS WITH CONTRACTING OFFICER.

DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
LK	A3.0	INTERIOR ELEVATIONS	350 / 114226
DRAWN: LK		MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	PKG. NO. SAFR; SHEET 5 OF 11
TECH. REVIEW:			
DATE: 11/30/12			



2 CEILING EXISTING CONDITIONS
SCALE:



1 REFLECTED CEILING PLAN
SCALE: J

SCALE J 4 0 4 8
SCALE OF FEET

KEY NOTES

1. (E) TERRAZZO FLOOR
2. (E) TERRAZZO BASE
3. (E) STEEL DOORS AND WINDOWS, TYP.
4. (E) PARTIAL HEIGHT GLASS PARTITION
5. (E) PLASTER WALL
6. (E) PLASTER SOFFIT ABOVE SHOWN DASHED
7. (E) WALL SCONCE, TYP.
8. (E) DECORATIVE ROPE FEATURE, TYP.
9. PREPARE AND PAINT (E) WD DOOR, FRAME, AND TRIM. SEAL OPENING DURING CONSTRUCTION.
10. (E) WALL VENTS
11. (E) PLASTER SOFFIT
12. (E) DOOR PUSHBUTTON ACTUATOR
13. MAINTAIN ACCESS TO KITCHEN FROM VERANDA DURING ENTIRE PROJECT DURATION
14. MAINTAIN ACCESS TO ELEVATOR DURING ENTIRE PROJECT DURATION
15. REMOVE PAINT FROM (E) WD DOOR TO REVEAL ORIGINAL PAINTED DESIGN. SEAL OPENING DURING CONSTRUCTION.
16. (E) SPRAY APPLIED ACOUSTICAL CEILING FINISH
17. (E) SAFETY & FIRE PROTECTION EQUIPMENT

GENERAL NOTES

1. PROTECT (E) ELEMENTS TO REMAIN, INCLUDING BUT NOT LIMITED TO: TERAZZO FLOOR, TERRAZZO BASE, STEEL DOORS AND WINDOWS, GLASS PARTITIONS, AND FIRE DETECTION AND ALARM SYSTEMS.
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DESIGNED: LK	SUB SHEET NO: A4.0	TITLE OF SHEET: REFLECTED CEILING PLAN	DRAWING NO: 350 114226
TECH. REVIEW:		MARITIME MUSEUM BUILDING SAN FRANCISCO MARITIME NHP	PKG. NO. SAFR SHEET 6 OF 11
DATE: 11/30/12			

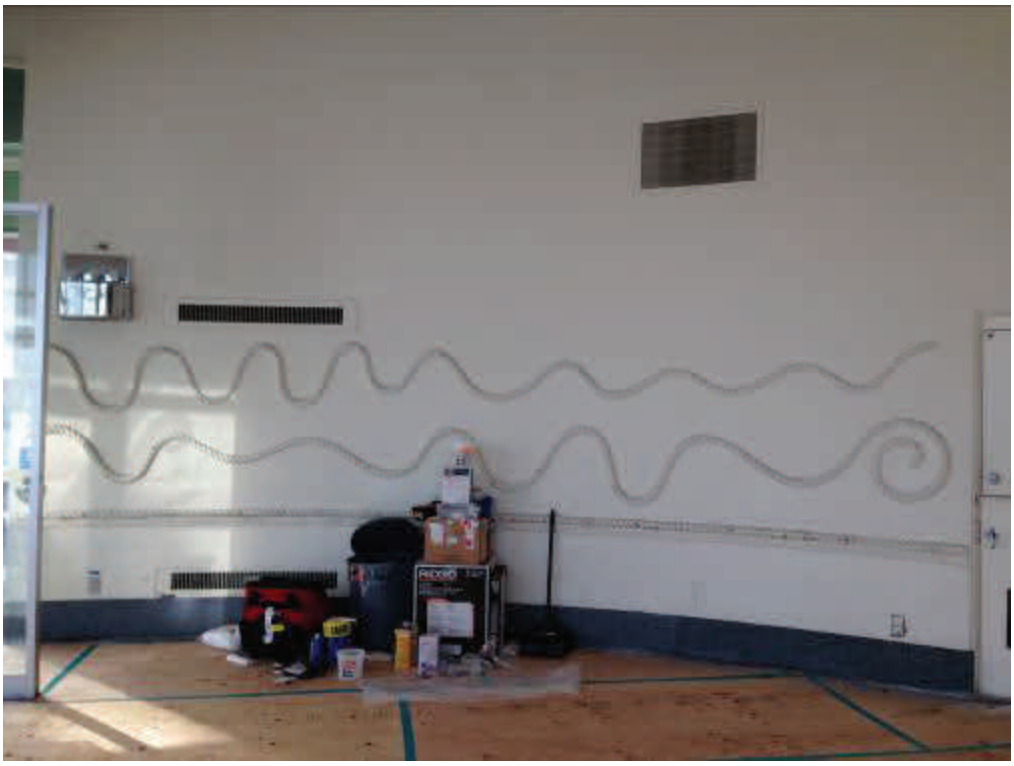
Section view



Section view



Section view



Section view



Section view



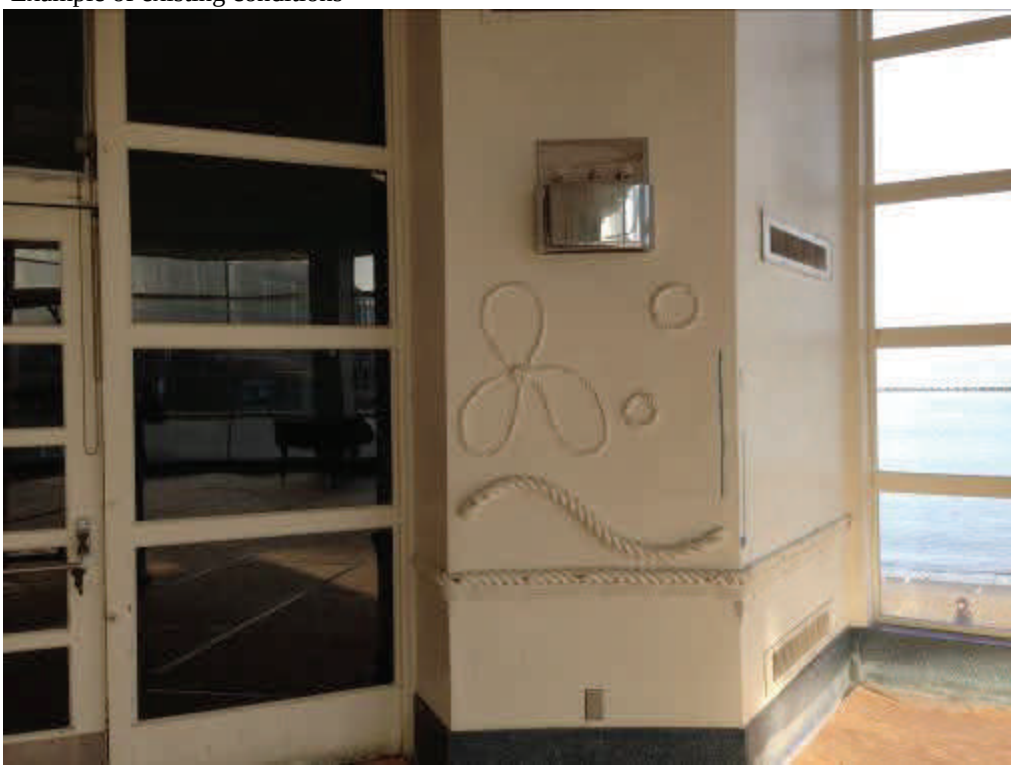
Section view



Example of existing conditions



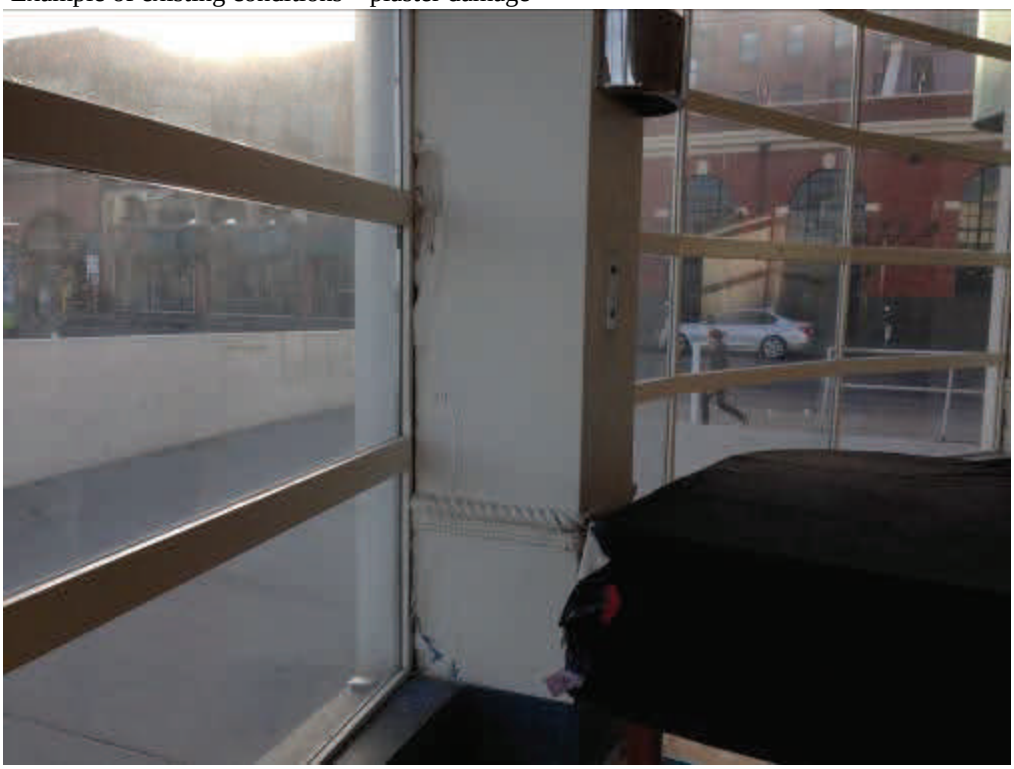
Example of existing conditions



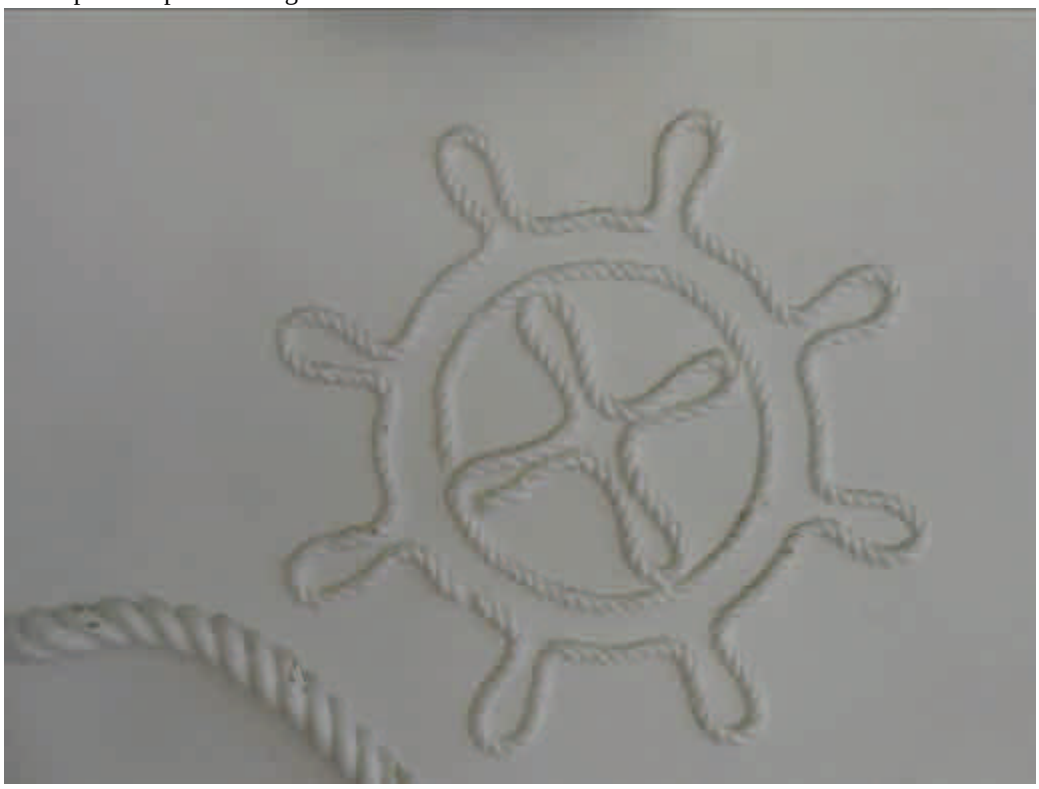
Example of existing conditions



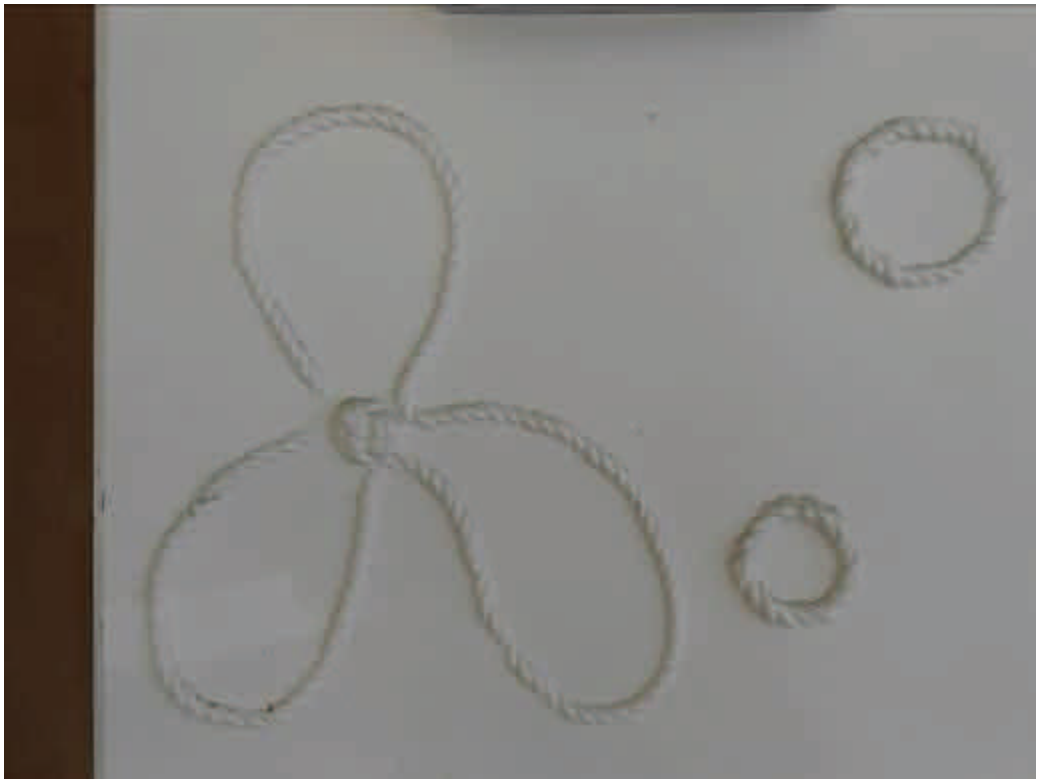
Example of existing conditions—plaster damage



Example of rope moulding



Example of rope moulding



Example of rope moulding



Example of rope moulding



Historic kitchen door.



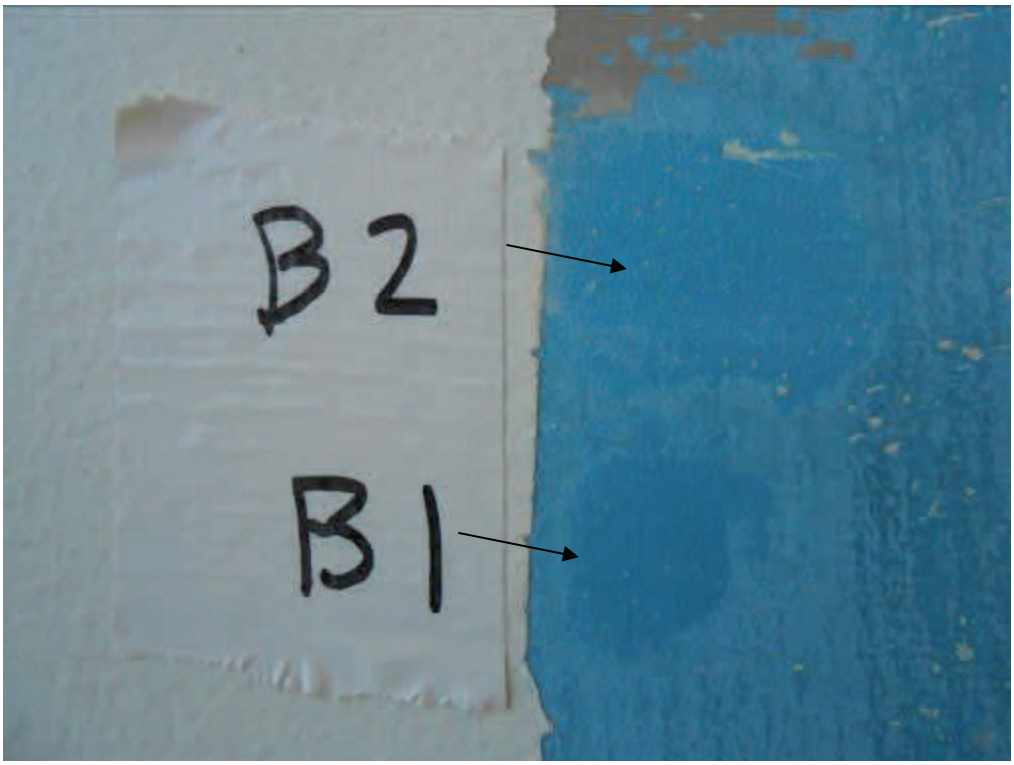
Full wall exposure.



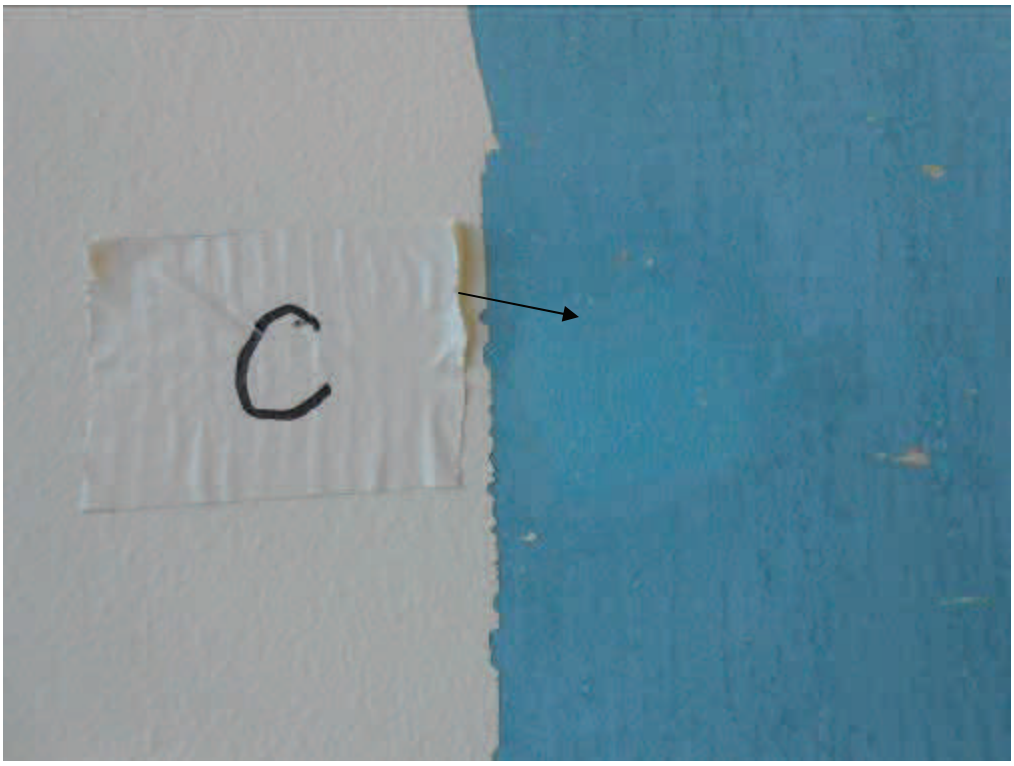
Full wall exposure: section A with inner reveal



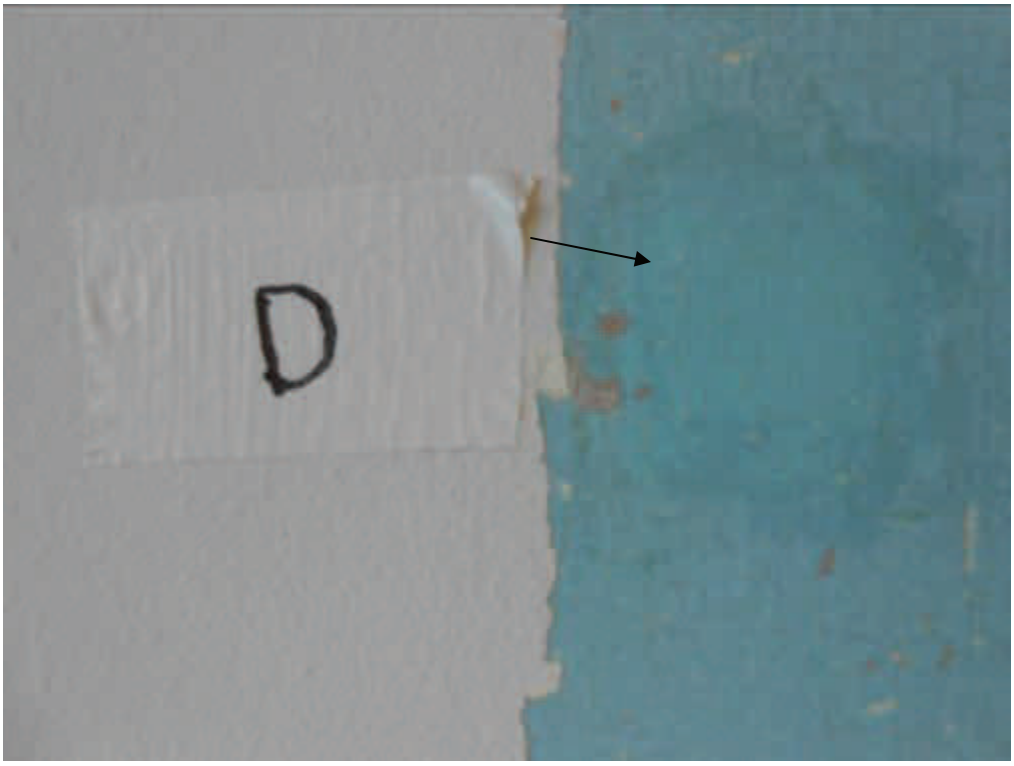
Full wall exposure: section B with inner reveal



Full wall exposure: section C with inner reveal



Full wall exposure: section D with inner reveal



Full wall exposure: section E with inner reveal



Full wall exposure: section F with inner reveal



Full wall exposure: section H - ceiling



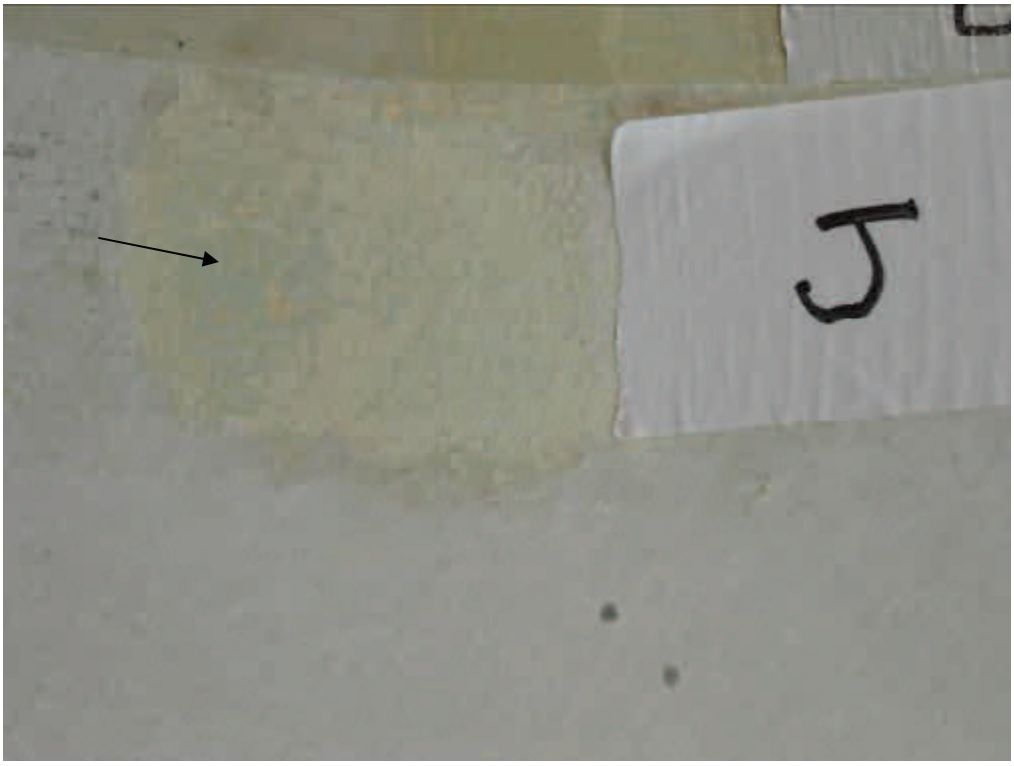
Full wall exposure: section G - ceiling



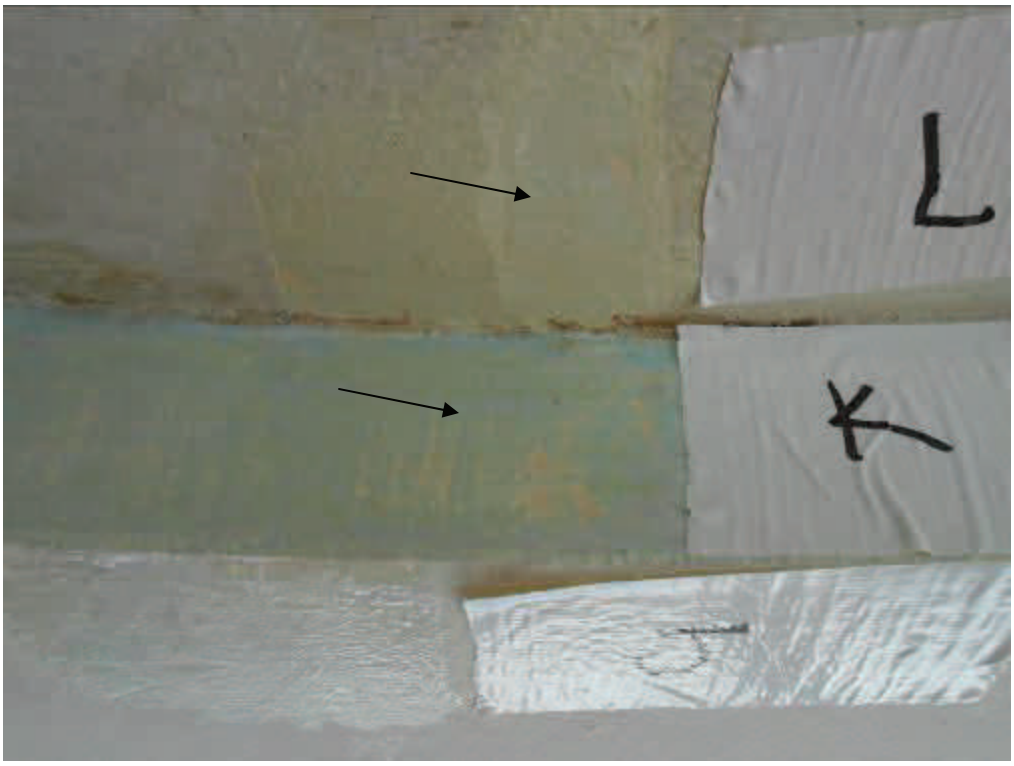
Full wall exposure: section I- ceiling spiral face



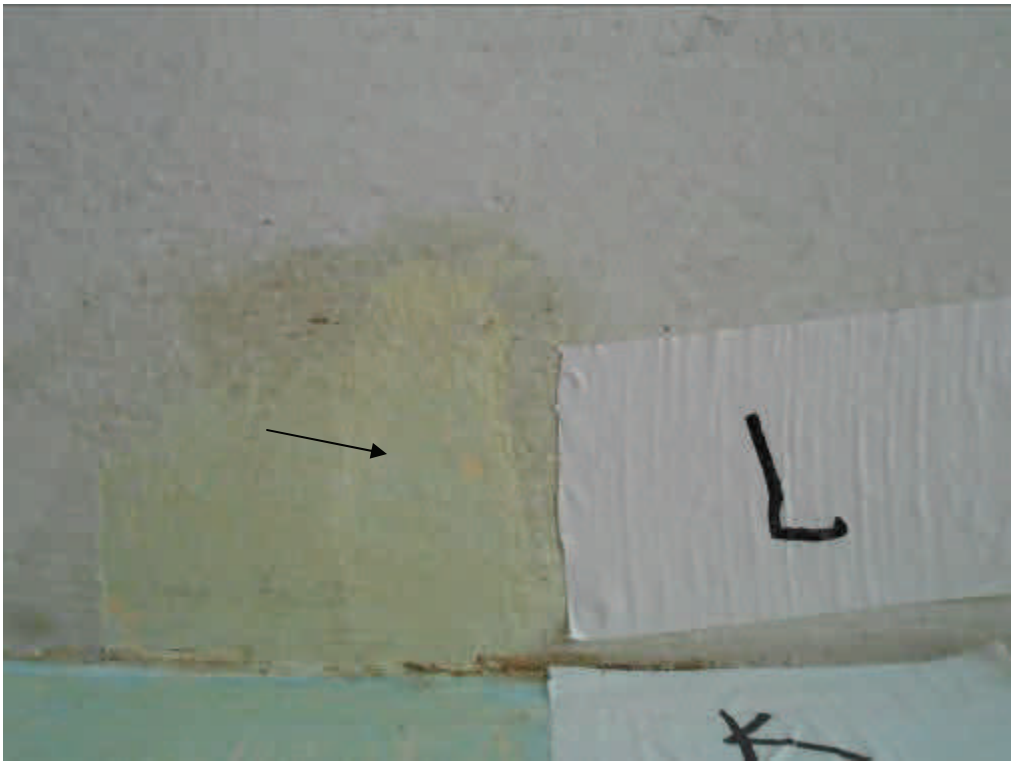
Full wall exposure: section J - ceiling



Full wall exposure: section K & L - ceiling



Full wall exposure: section K & L - ceiling



Detail of exposed rope moulding - with wall treatment fragments and gray/blue fragments



Detail of exposed rope moulding - with gray/blue paint



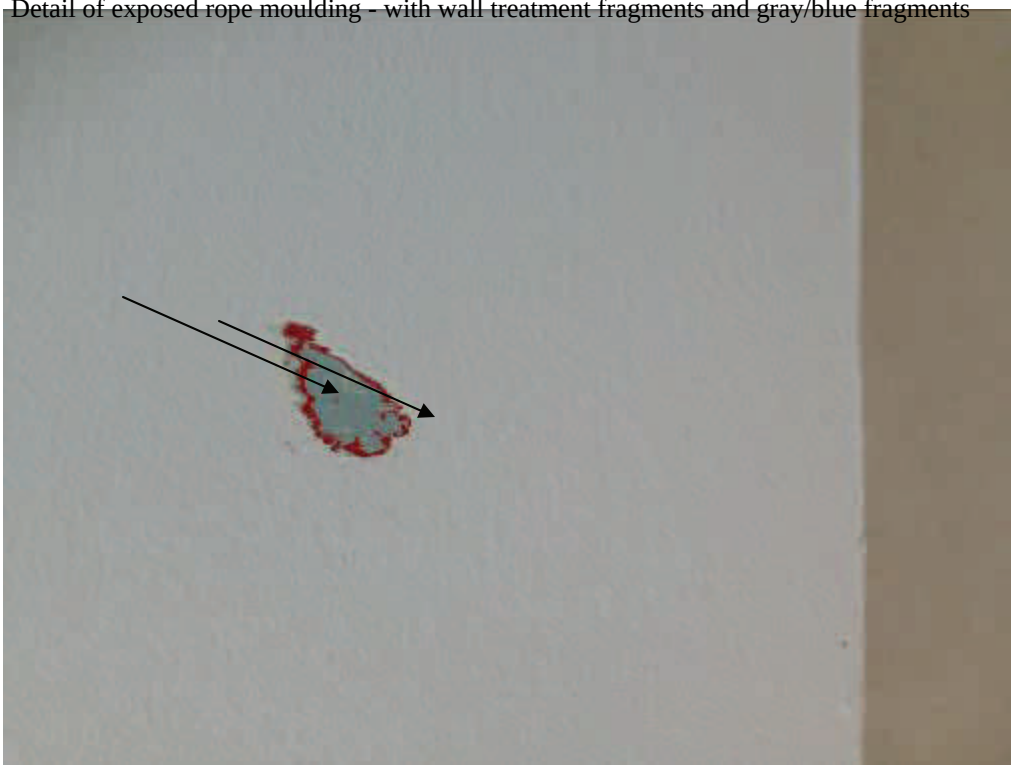
Detail of exposed rope moulding - with wall treatment fragments and gray/blue fragments



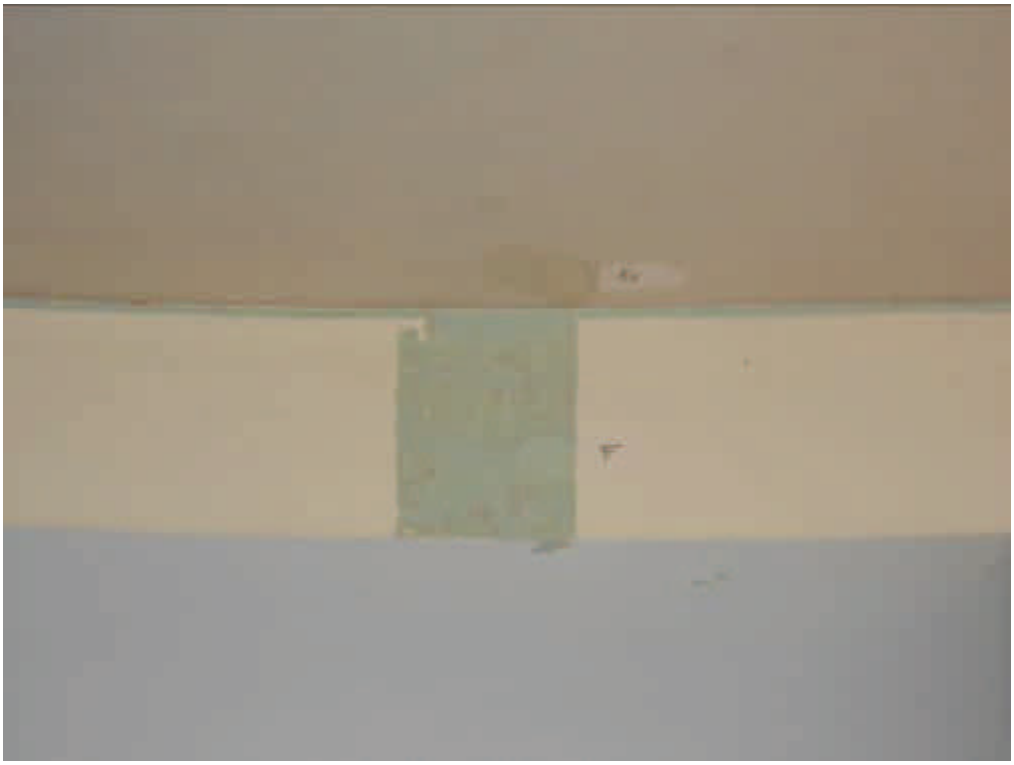
Detail of exposed metal rope moulding cap.



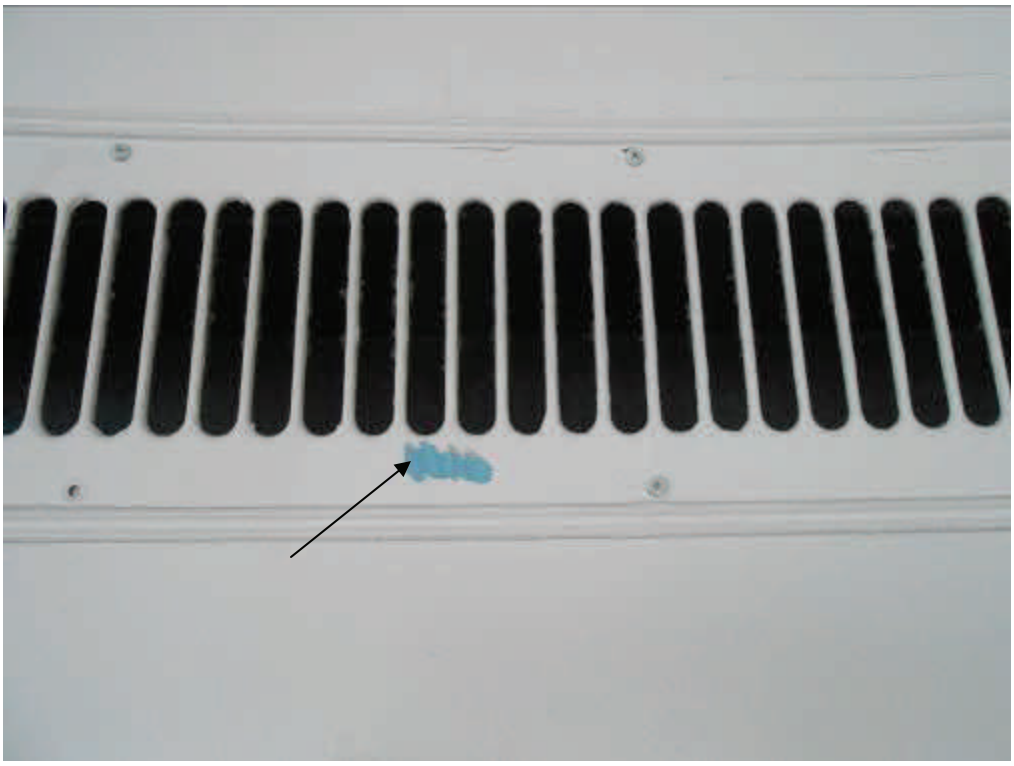
Detail of exposed window lintel/soffit finish.
Detail of exposed rope moulding - with wall treatment fragments and gray/blue fragments



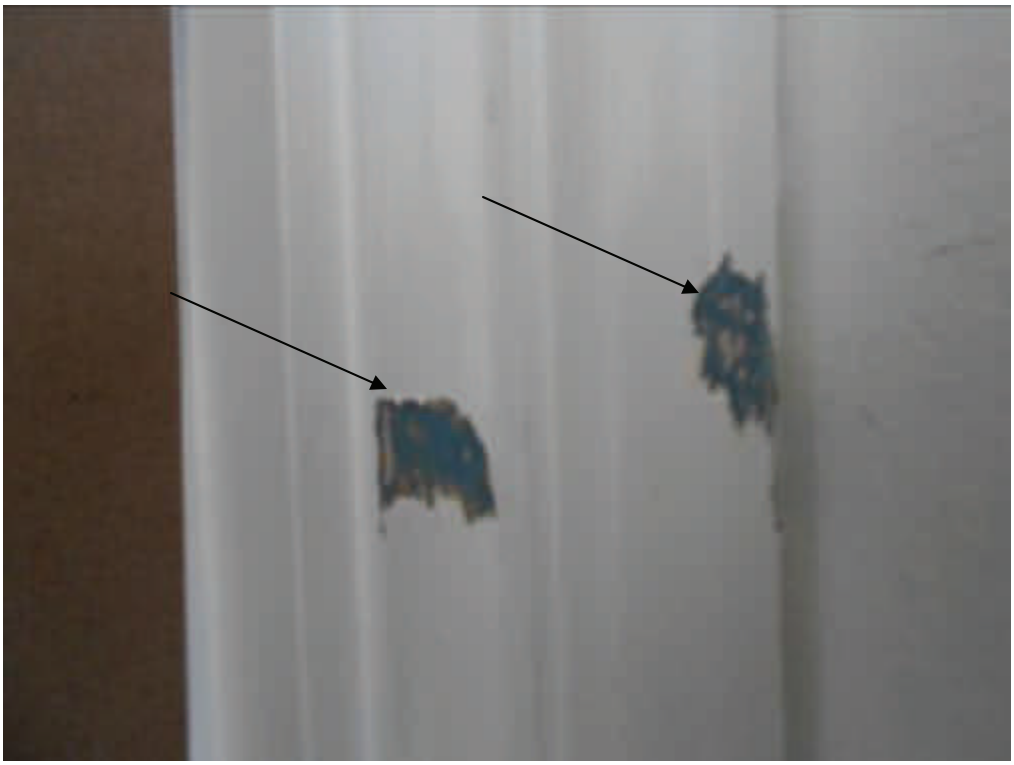
Full wall exposure: section F



Detail of exposed decorative finish at vent. Typical with wall treatment.



Detail of exposed door casing paint finish.



Detail of exposed door polychrome finishes.



Detail of exposed door polychrome finishes.



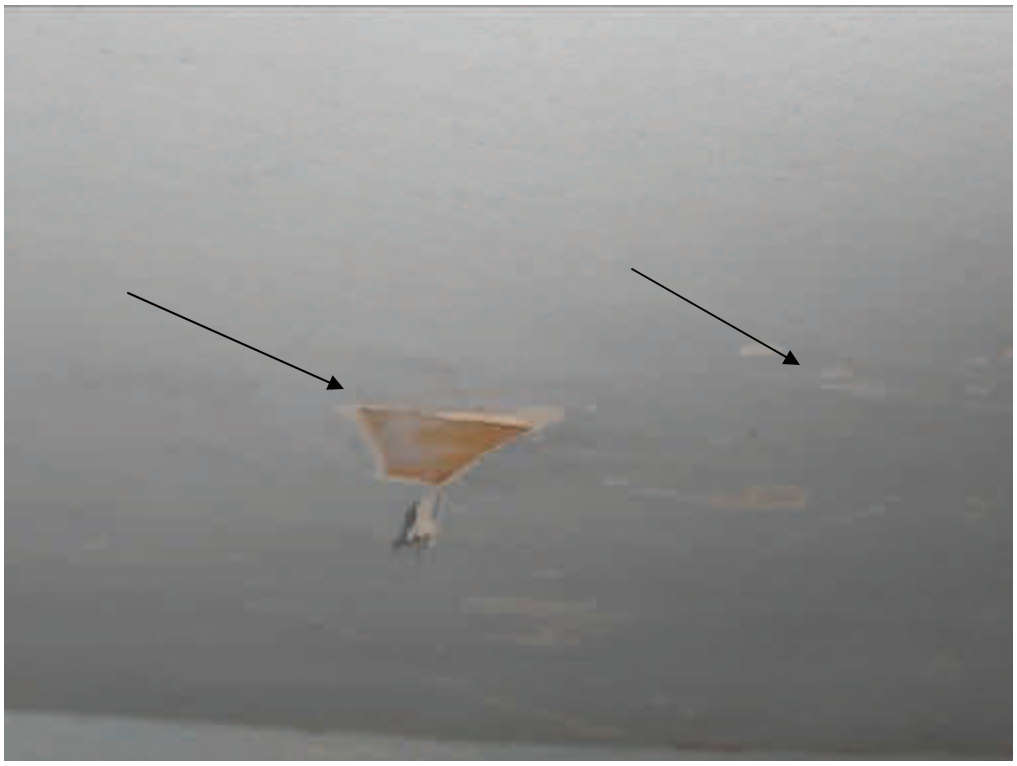
Failed previous plaster repair at ceiling.



Water damaged plaster and removed/lost canvas at ceiling.



Areas of delaminating/detached ceiling canvas



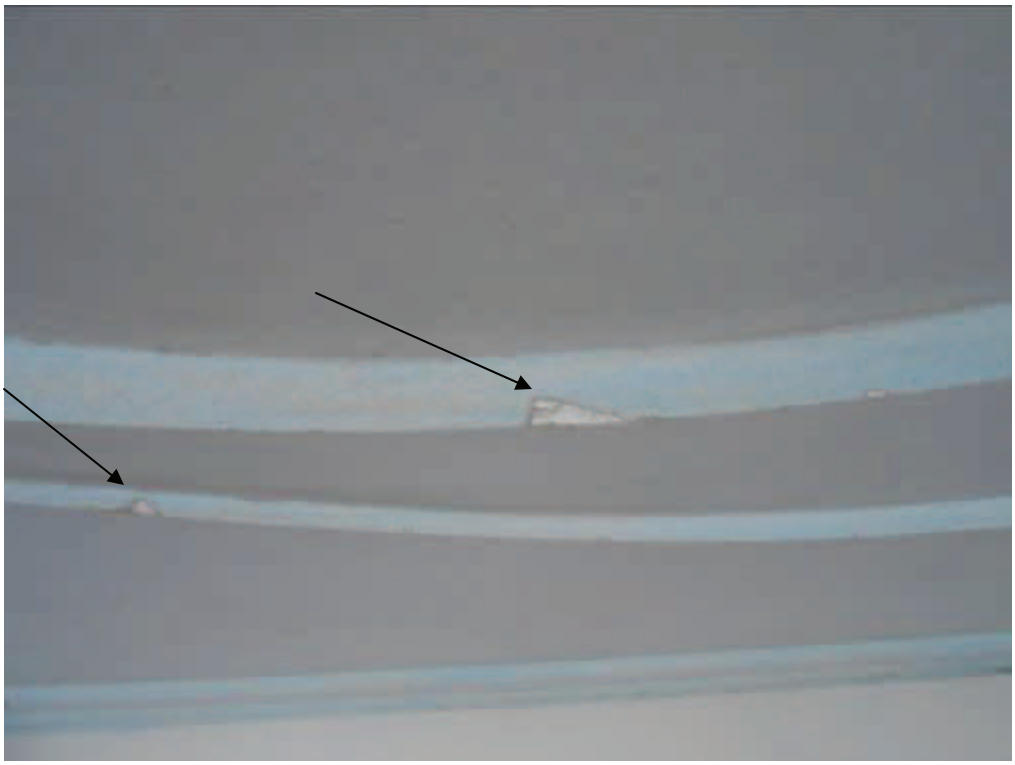
Damaged ceiling canvas.



Detached and torn ceiling canvas.



Damaged canvas.



Damaged canvas.



Water damage at window.



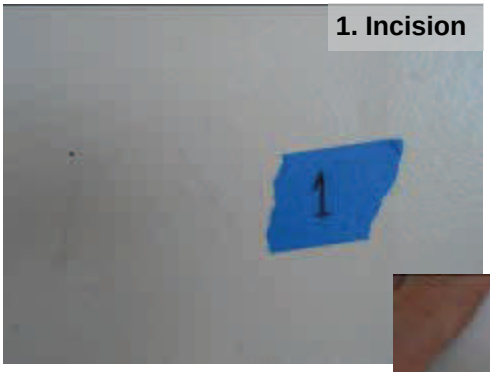
Water damage at window.

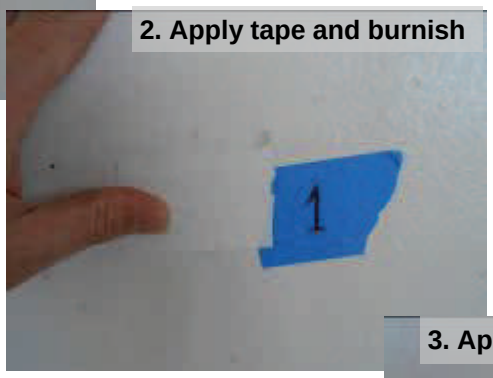


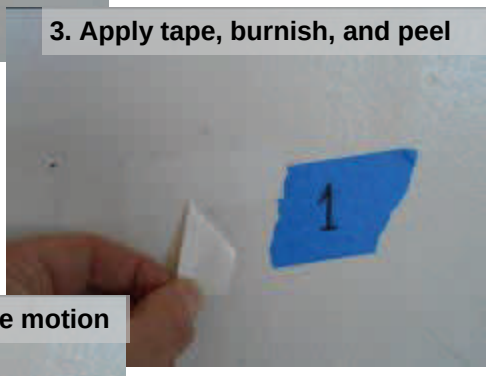
Water damage at window.

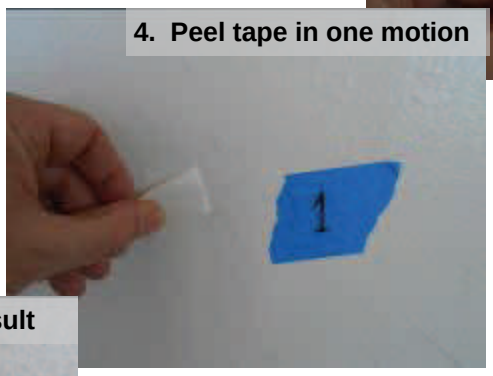


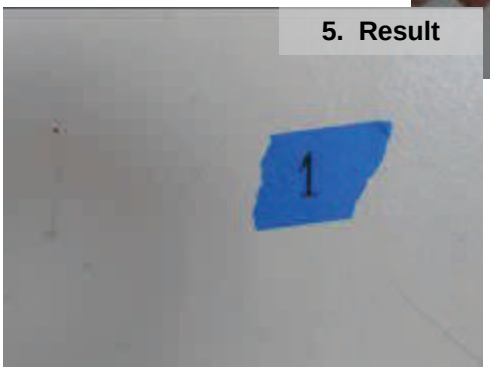
Adhesion Test: Typical steps following incision





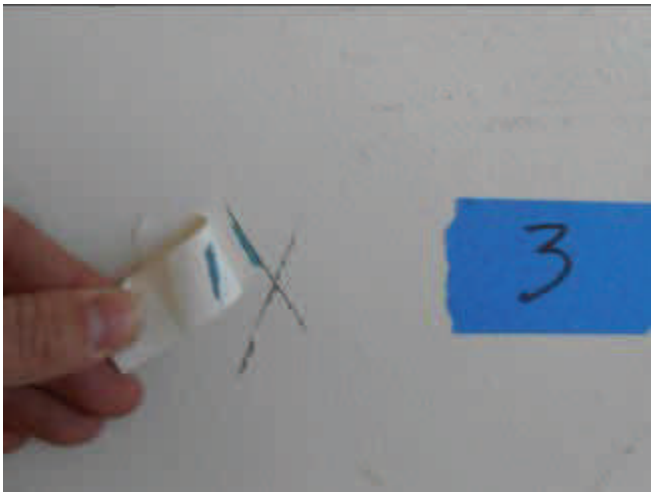


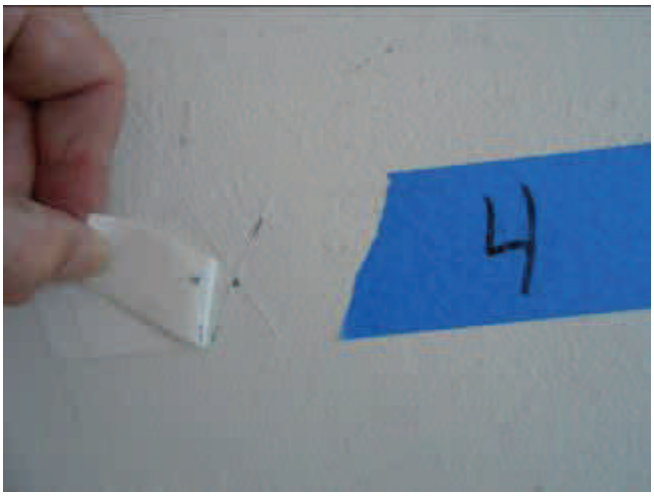




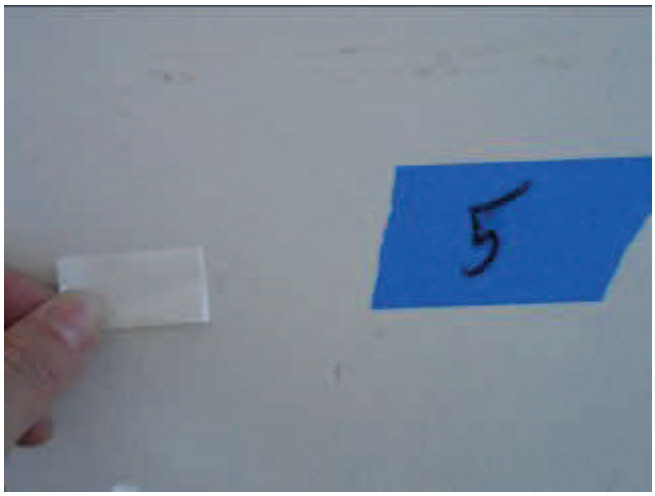
Adhesion test visual results.

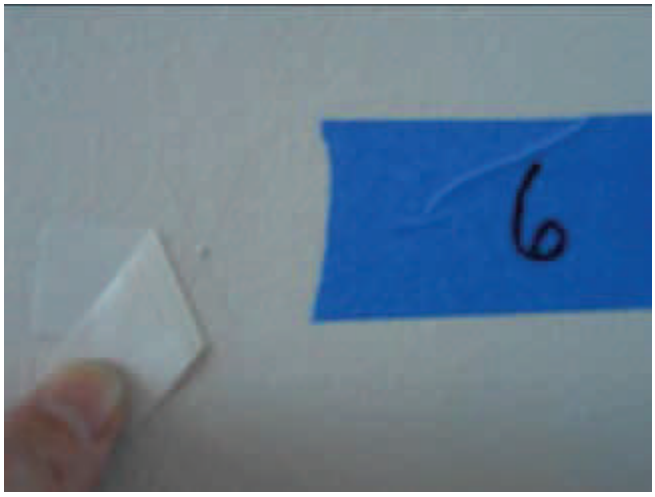






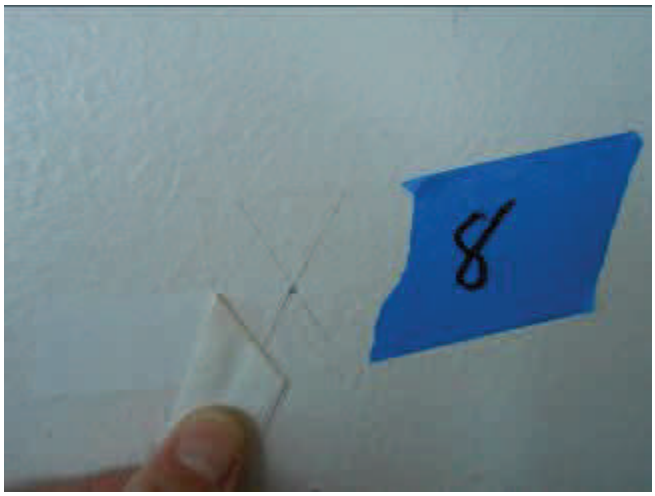
Adhesion test visual results.

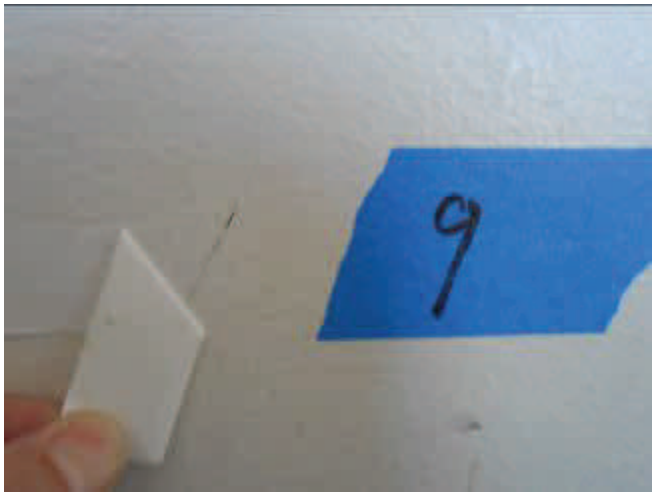






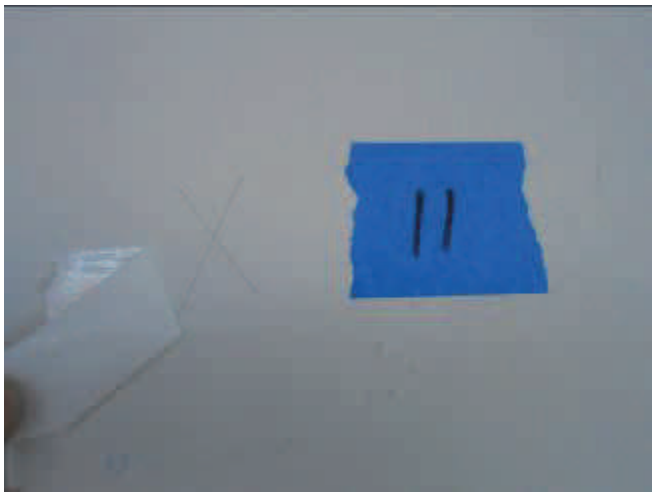
Adhesion test visual results.

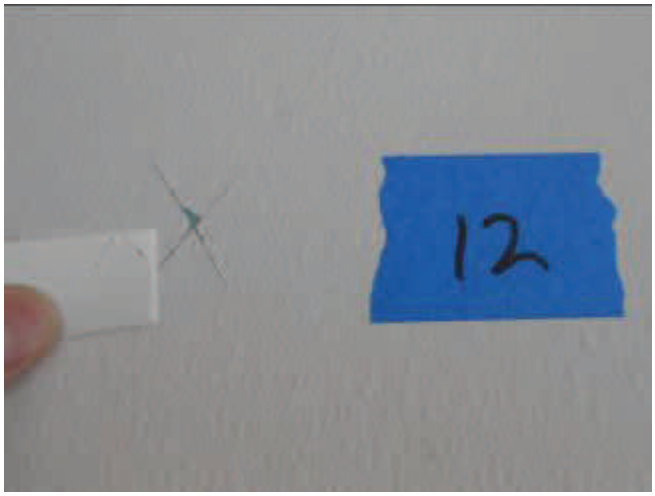


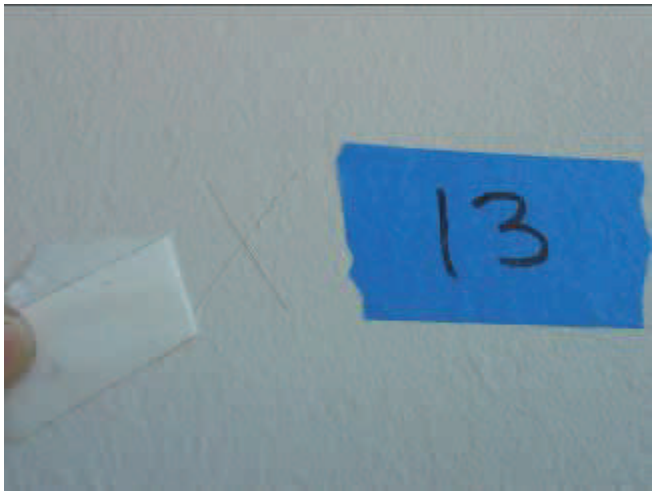




Adhesion test visual results.



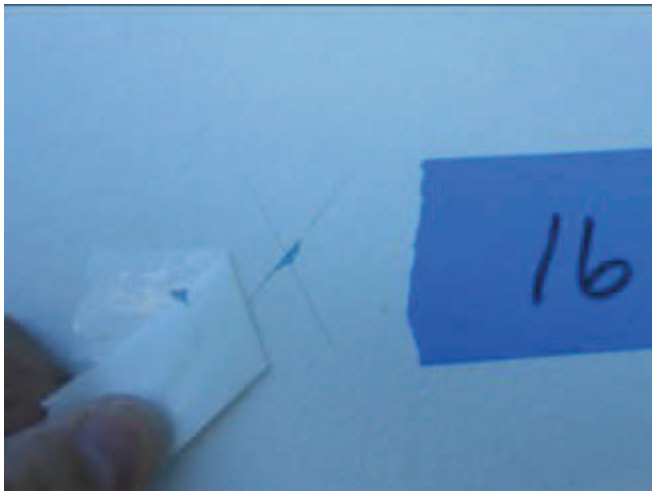




Adhesion test visual results.

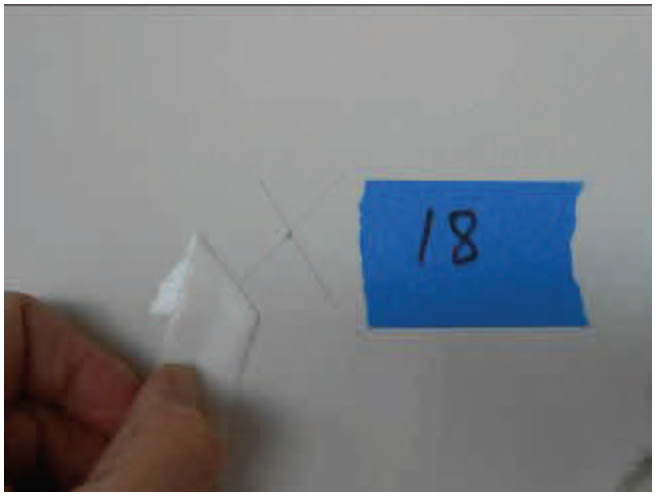






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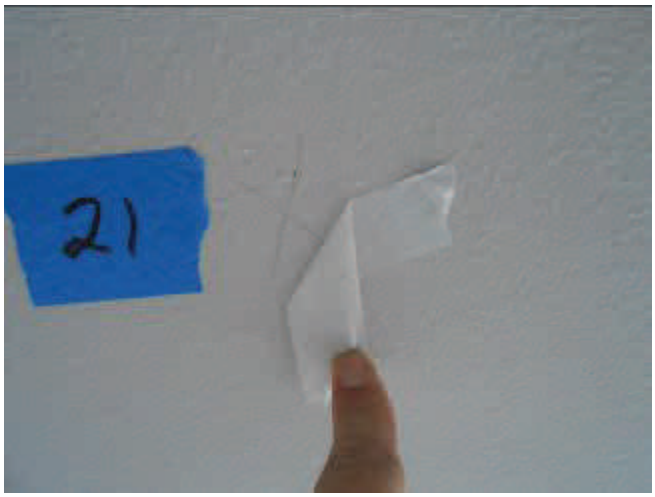


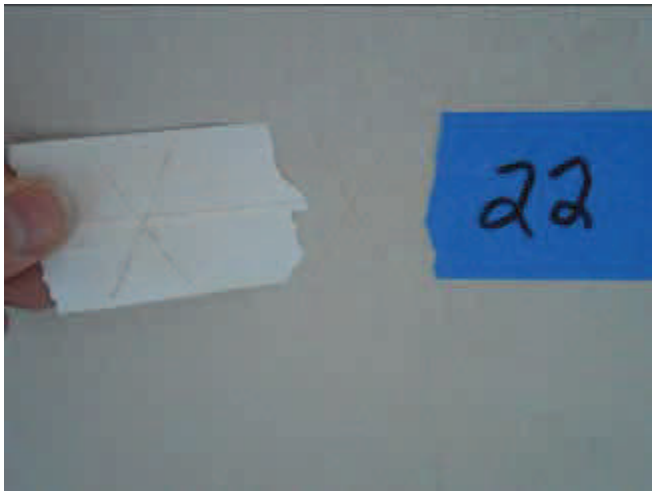




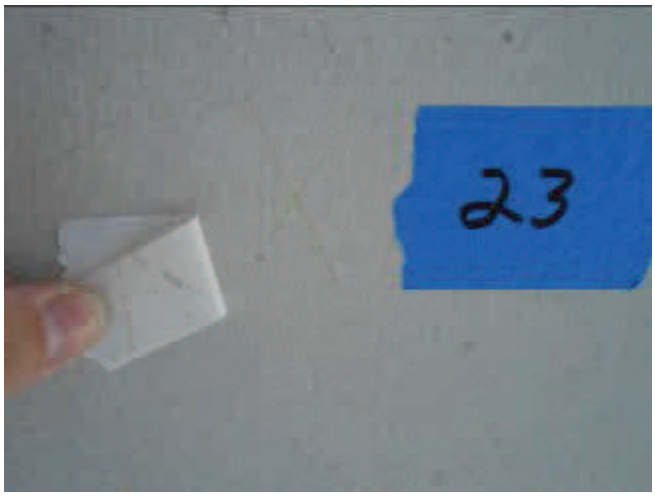
Adhesion test visual results.

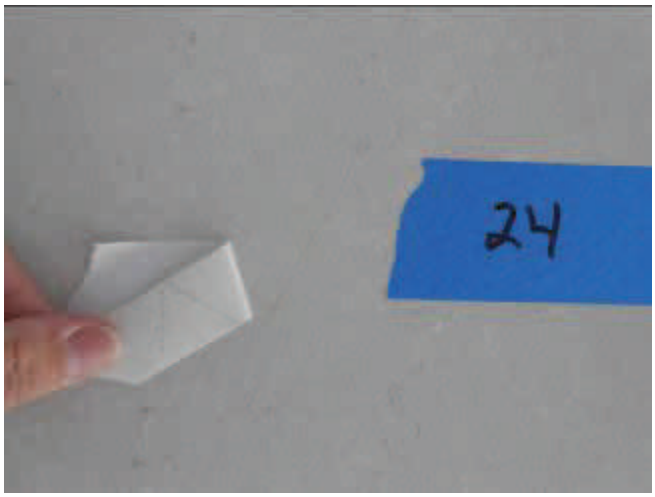


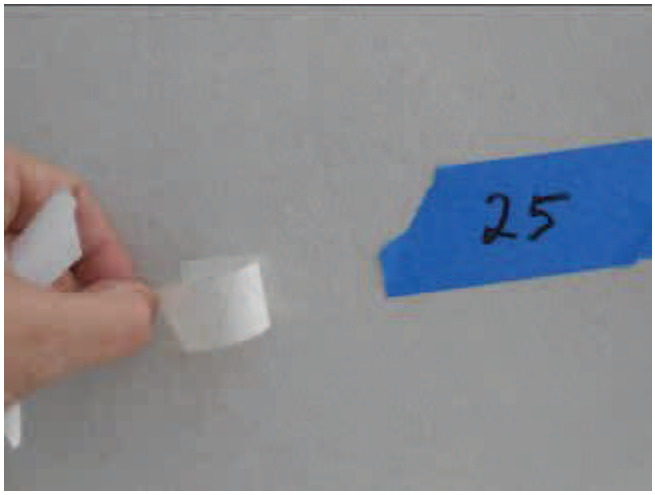




Adhesion test visual results.







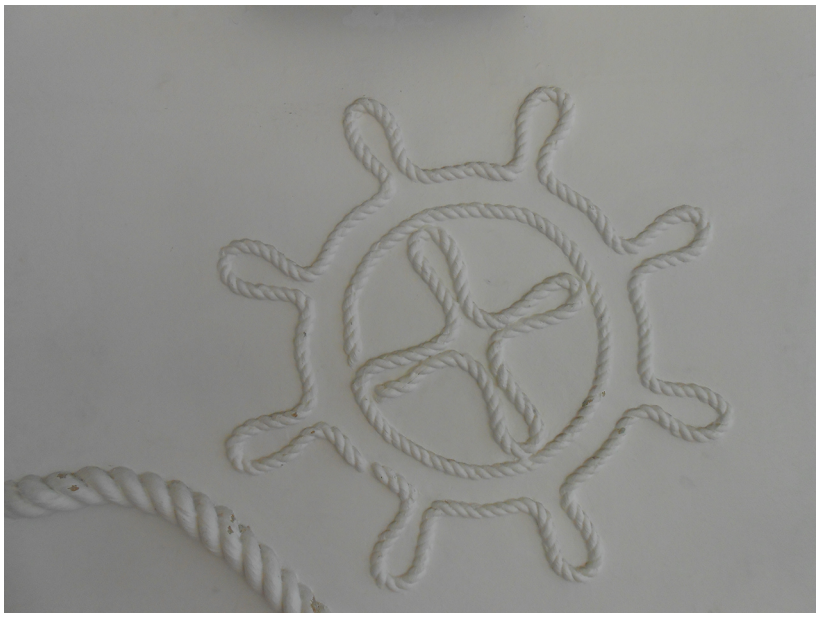
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Maritime Museum Building - Bay View Room Mural and Ceiling Restoration
Limited Paint Finishes Investigation

PHOTO #.jpg	DESCRIPTION
PS-00.jpg	Example of Rope Molding
PS-01.jpg	Example of Rope Molding
PS-02.jpg	Example of Rope Molding
PS-03.jpg	Example of Rope Molding
PS-04.jpg	Historic Kitchen Door
PS-05.jpg	Full Wall Exposure
PS-06.jpg	Full Wall Exposure: Section A with Inner Reveal
PS-07.jpg	Full Wall Exposure: Section B with Inner Reveal
PS-08.jpg	Full Wall Exposure: Section C with Inner Reveal
PS-09.jpg	Detail of Exposed Rope Molding
PS-10.jpg	Detail of Exposed Rope Molding - With Wall Treatment Fragments
PS-11.jpg	Detail of Exposed Metal Rope Molding Cap
PS-12.jpg	Full Wall Exposure - Section F
PS-13.jpg	Detail of Exposed Decorative Finish at Vent. Typical With Wall Treatment
PS-14.jpg	Detail of Exposed Door Casing Paint Finish
PS-15.jpg	Detail of Exposed Door Polychrome Finishes
PS-16.jpg	Failed Previous Repair at Ceiling
PS-17.jpg	Water Damaged Plaster and Removed/Lost Canvas at Ceiling
PS-18.jpg	Damaged Ceiling Canvas
PS-19.jpg	Areas of Delaminating/Detached Ceiling Canvas
PS-20.jpg	Detached and Torn Ceiling Canvas
PS-21.jpg	Damaged Canvas
PS-22.jpg	Adhesion Test: Typical Steps Following Incision
PS-23.jpg	Adhesion Test: Typical Steps Following Incision
PS-24.jpg	Adhesion Test: Typical Steps Following Incision
PS-25.jpg	Adhesion Test: Typical Steps Following Incision
PS-26.jpg	Adhesion Test: Typical Steps Following Incision
PS-27.jpg	Adhesion Test Visual Results
PS-28.jpg	Adhesion Test Visual Results
PS-29.jpg	Adhesion Test Visual Results
PS-30.jpg	Adhesion Test Visual Results
PS-31.jpg	Adhesion Test Visual Results
PS-32.jpg	Adhesion Test Visual Results
PS-33.jpg	Adhesion Test Visual Results
PS-34.jpg	Adhesion Test Visual Results
PS-35.jpg	Adhesion Test Visual Results

Maritime Museum Building - Bay View Room Mural and Ceiling Restoration
Limited Paint Finishes Investigation

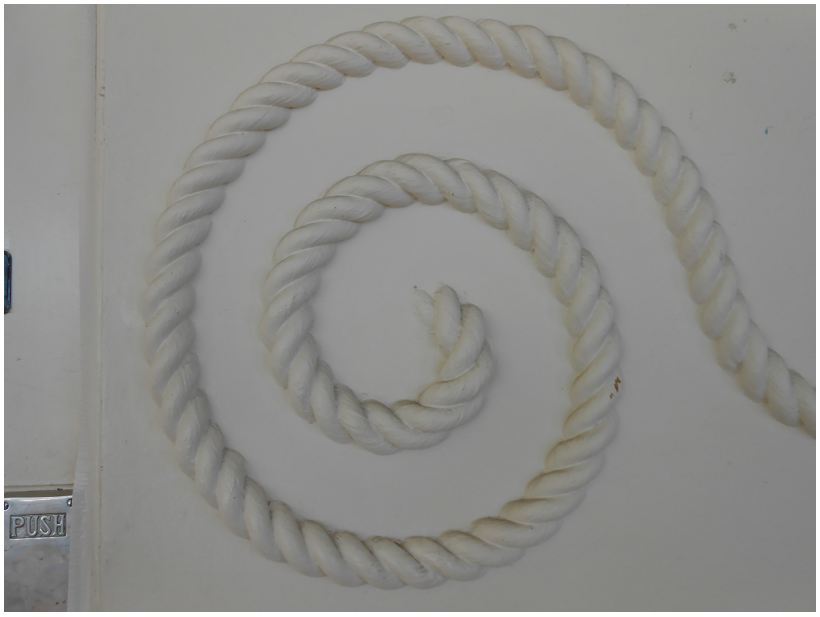
PHOTO #.jpg	DESCRIPTION
PS-36.jpg	Adhesion Test Visual Results
PS-37.jpg	Adhesion Test Visual Results
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PS-47.jpg	Adhesion Test Visual Results
PS-48.jpg	Adhesion Test Visual Results
PS-49.jpg	Adhesion Test Visual Results
PS-50.jpg	Adhesion Test Visual Results



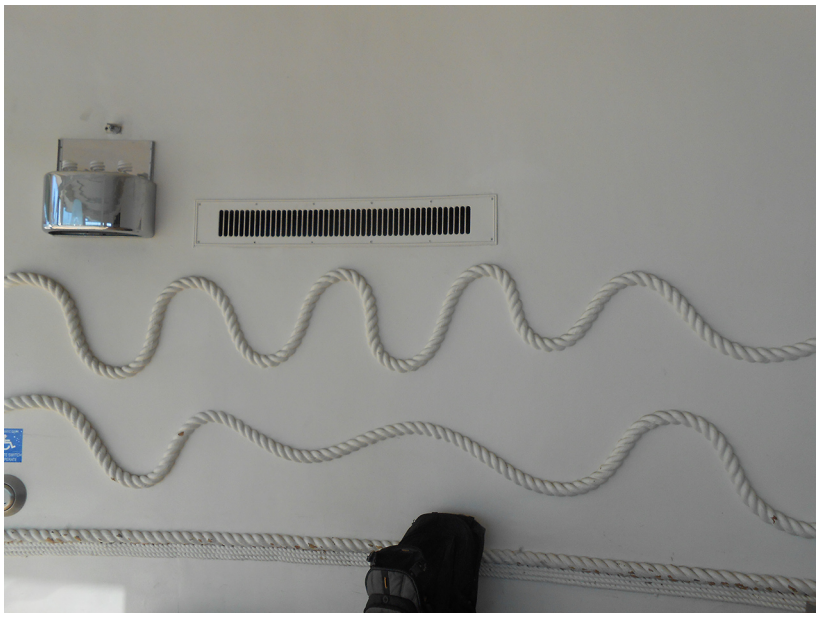
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PS-01.JPG



PS-02.JPG



PS-03.JPG



PS-04.JPG



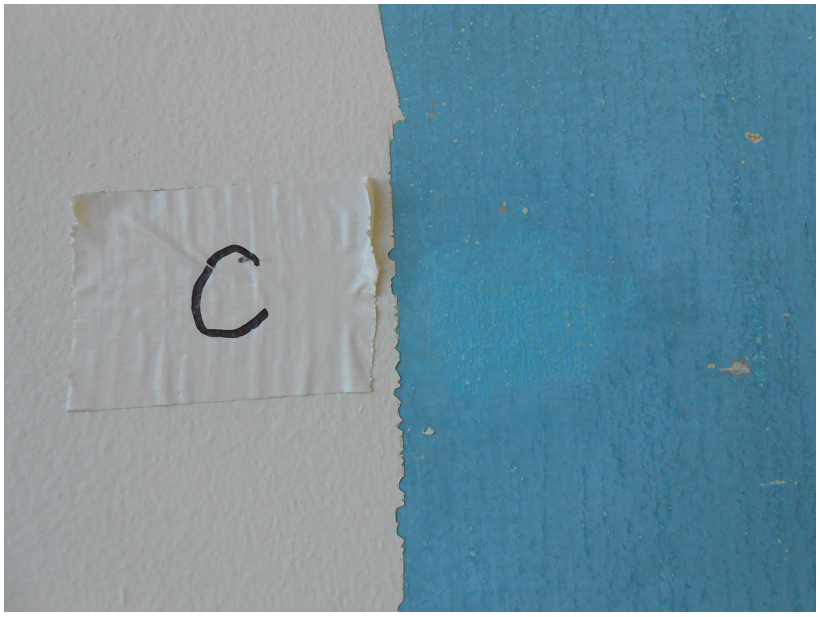
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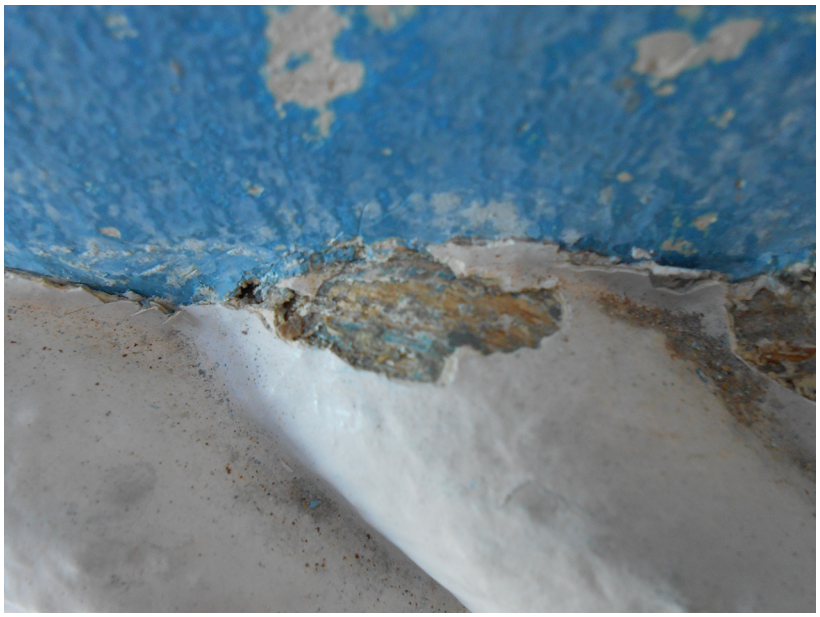
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PS-09.JPG



PS-10.JPG



PS-11.JPG



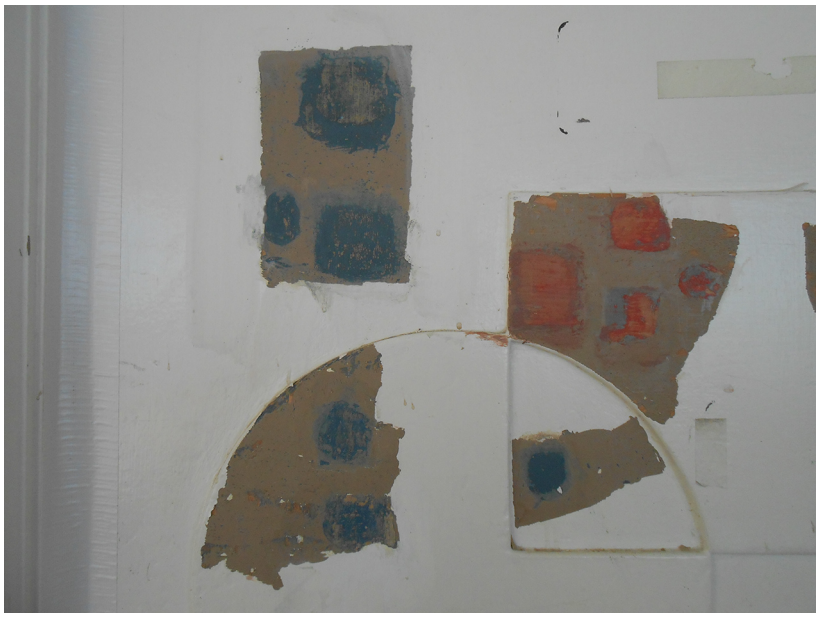
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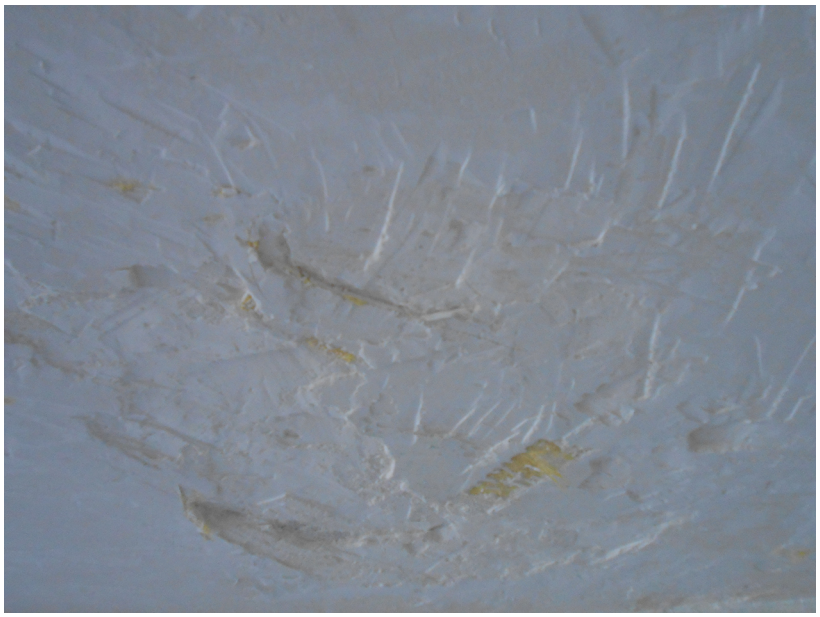
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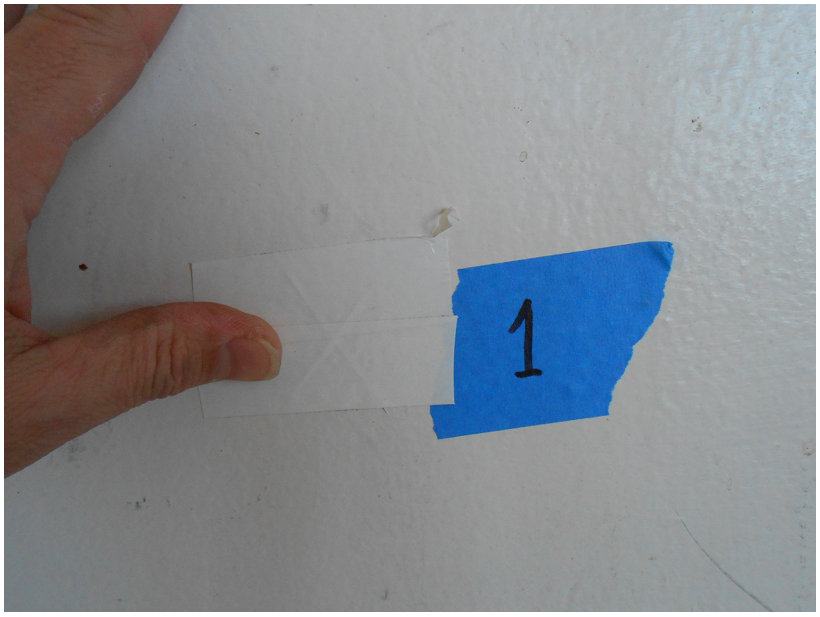
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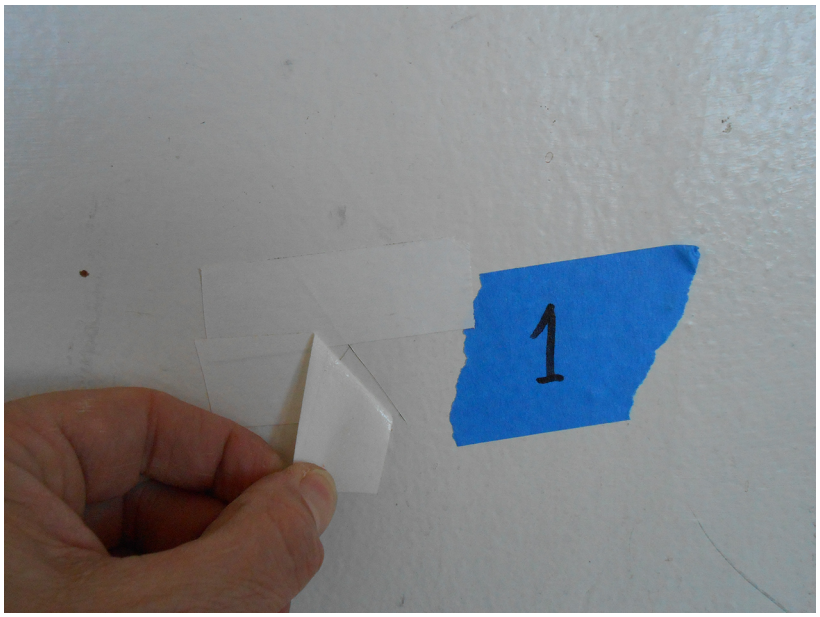
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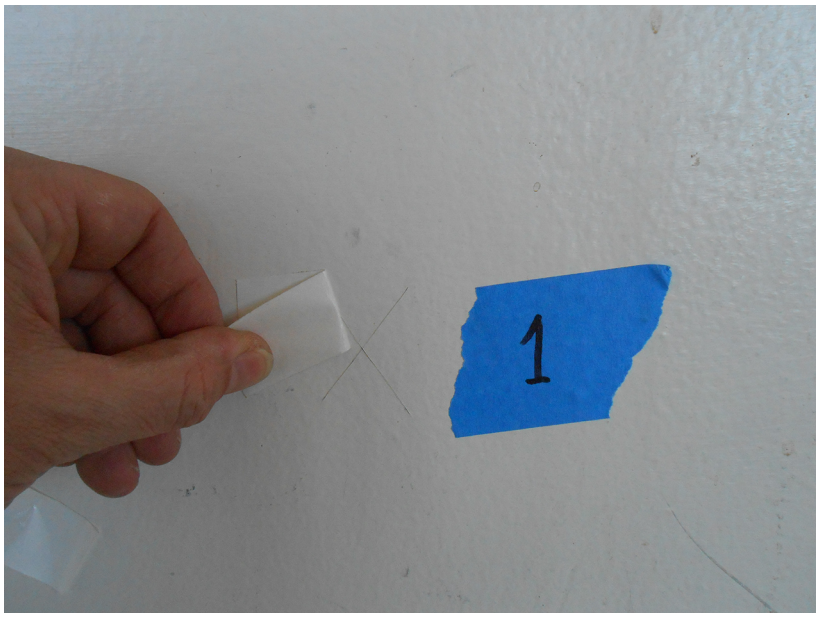
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PS-23.JPG



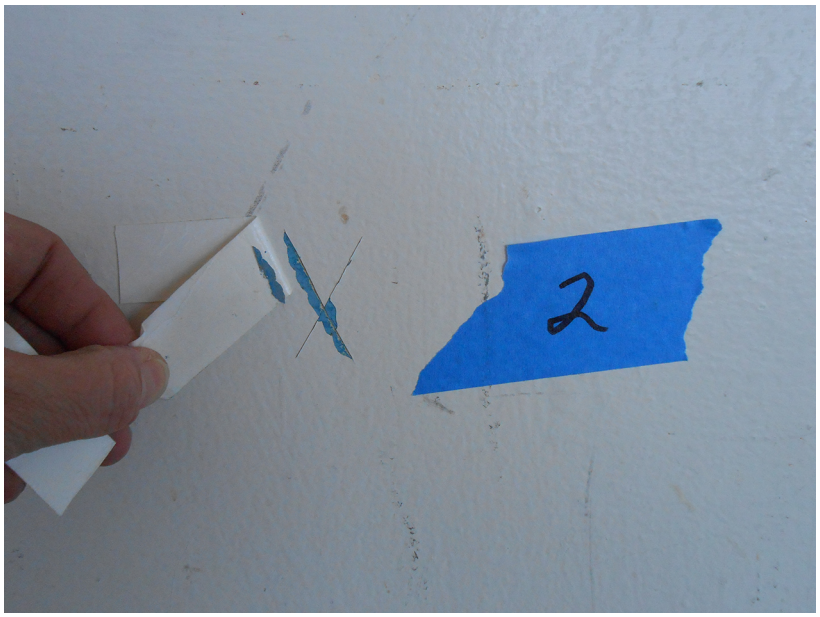
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PS-25.JPG



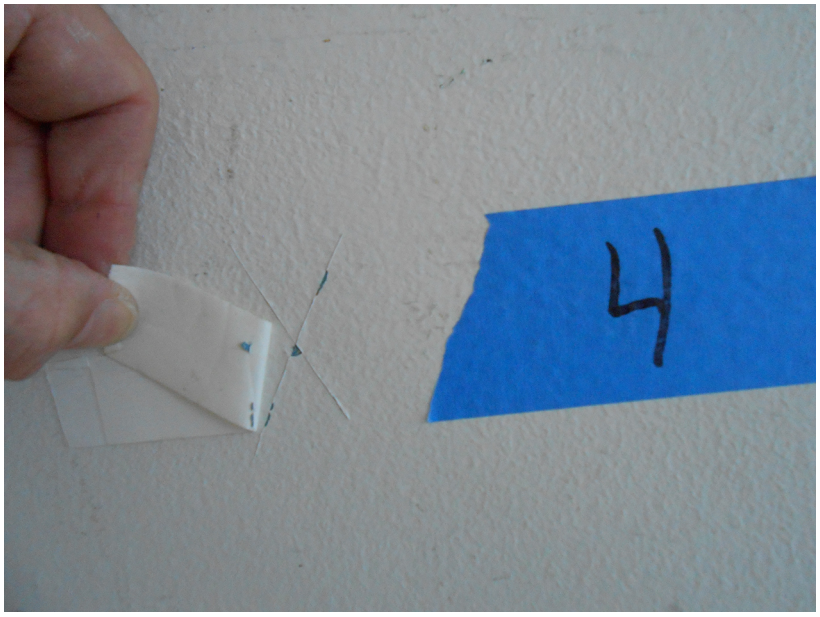
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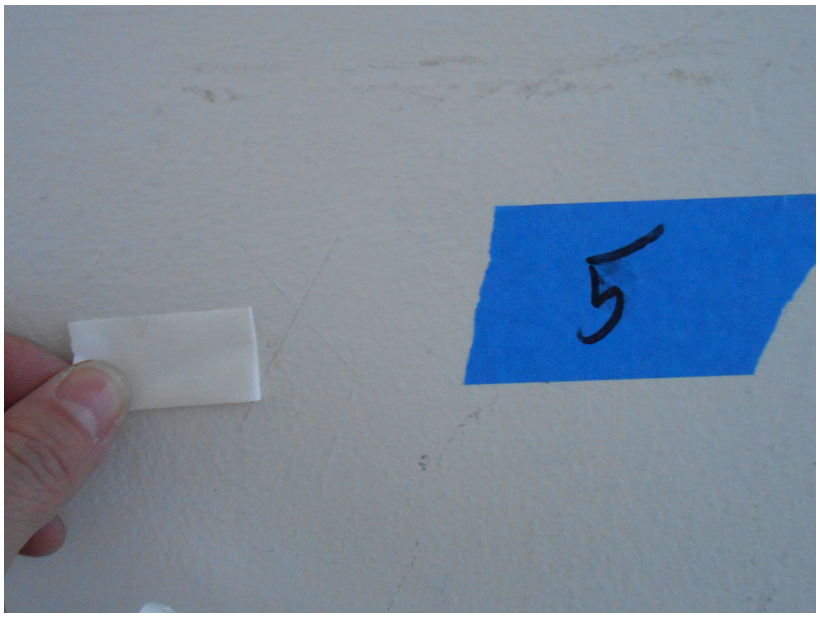
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PS-28.JPG



PS-29.JPG



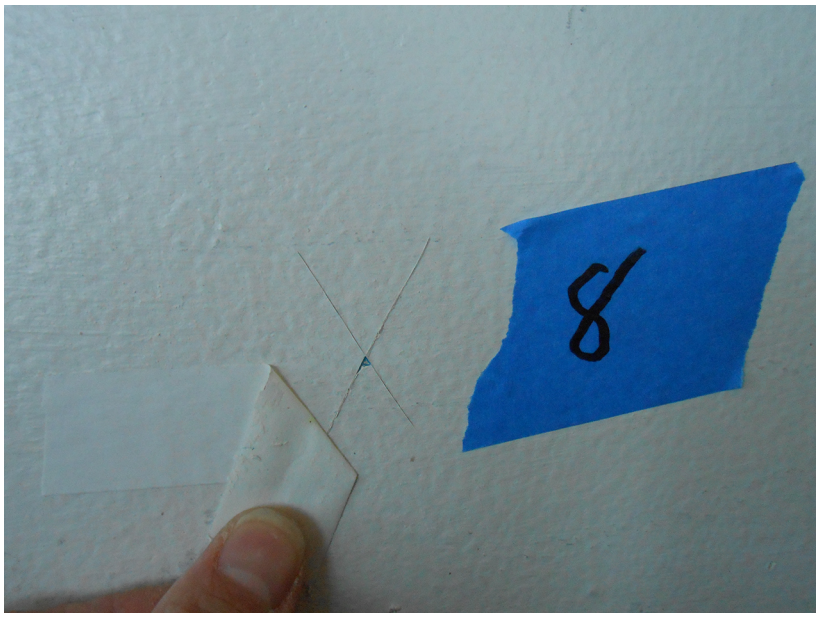
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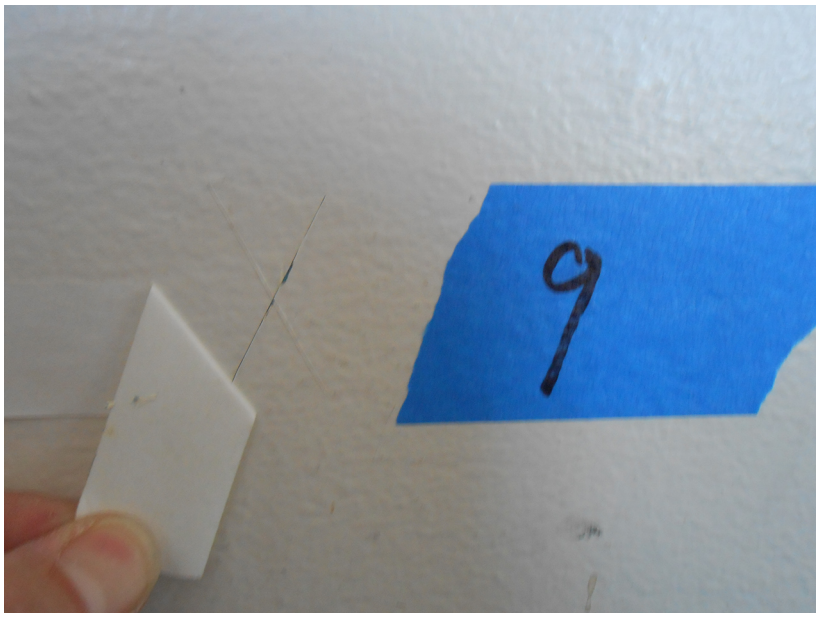
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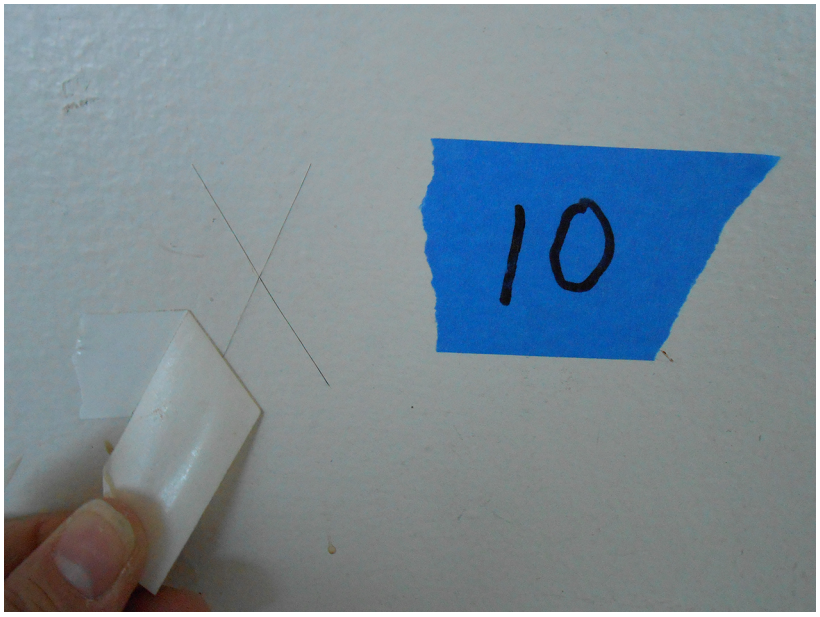
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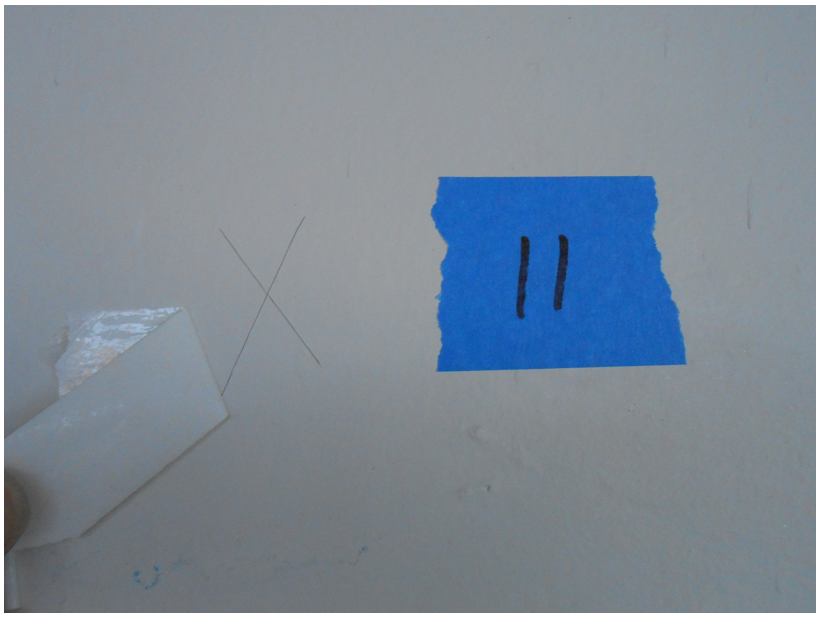
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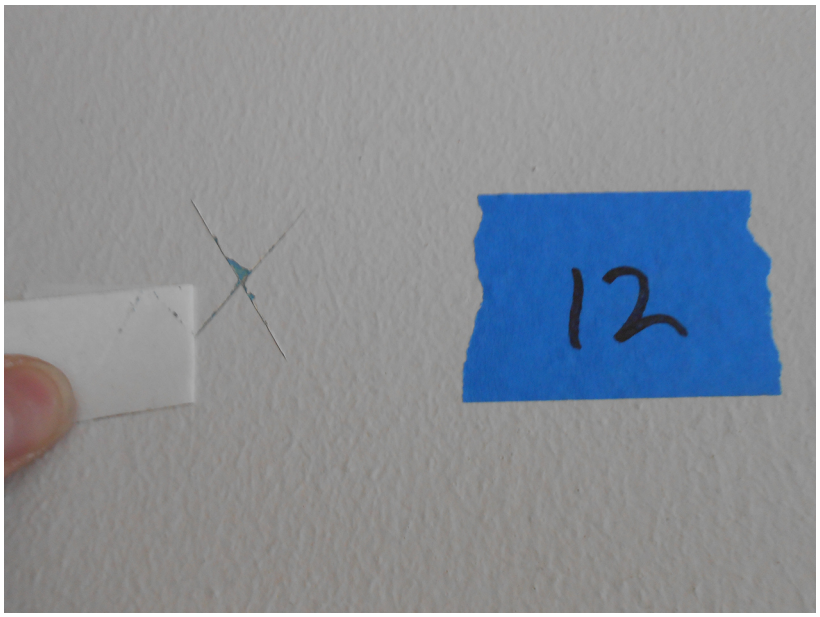
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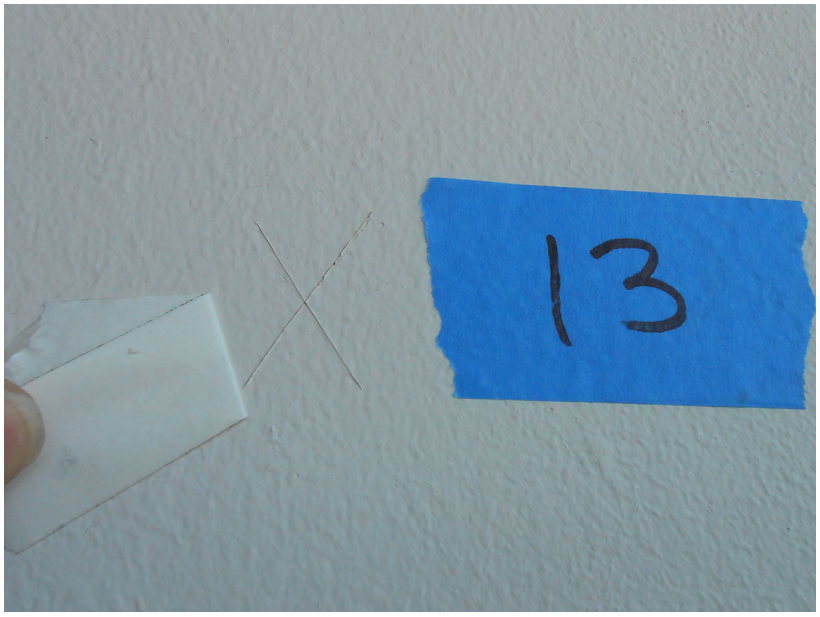
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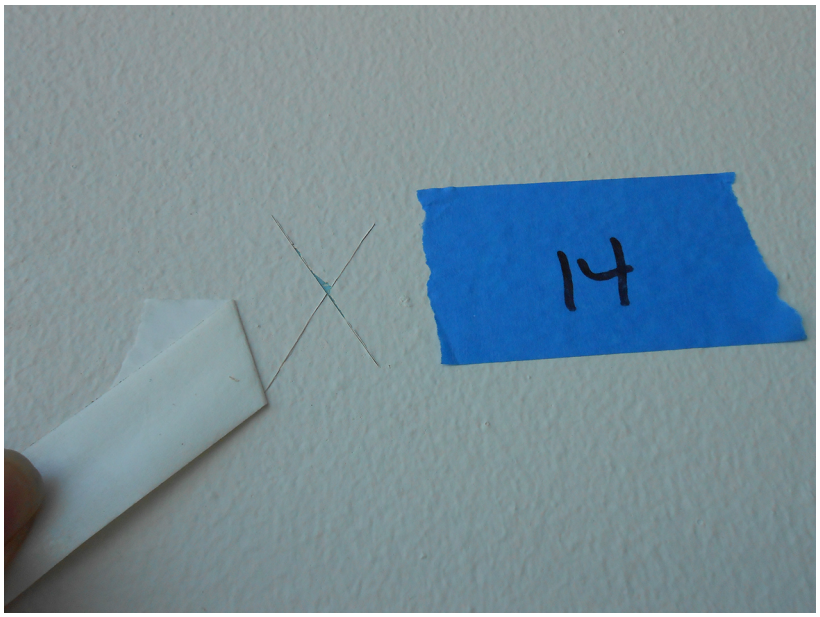
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PS-37.JPG



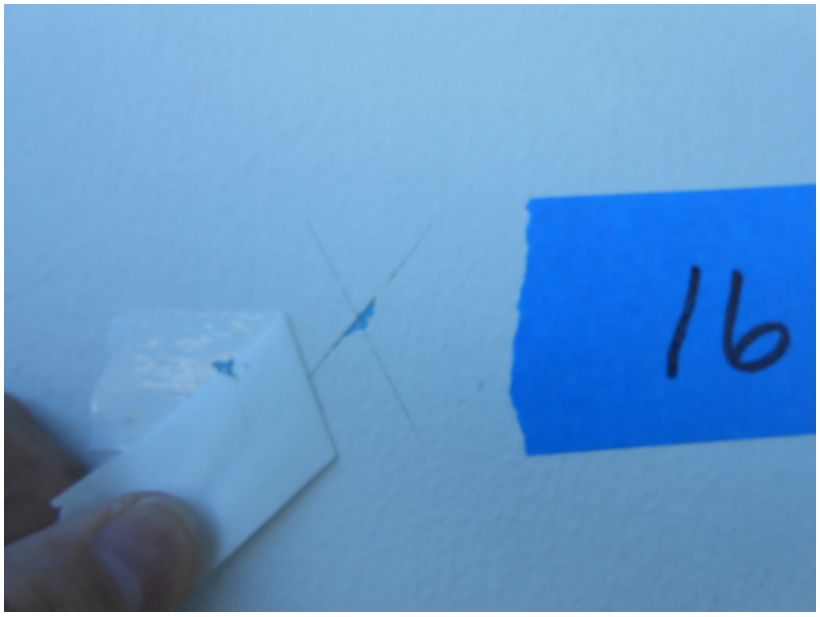
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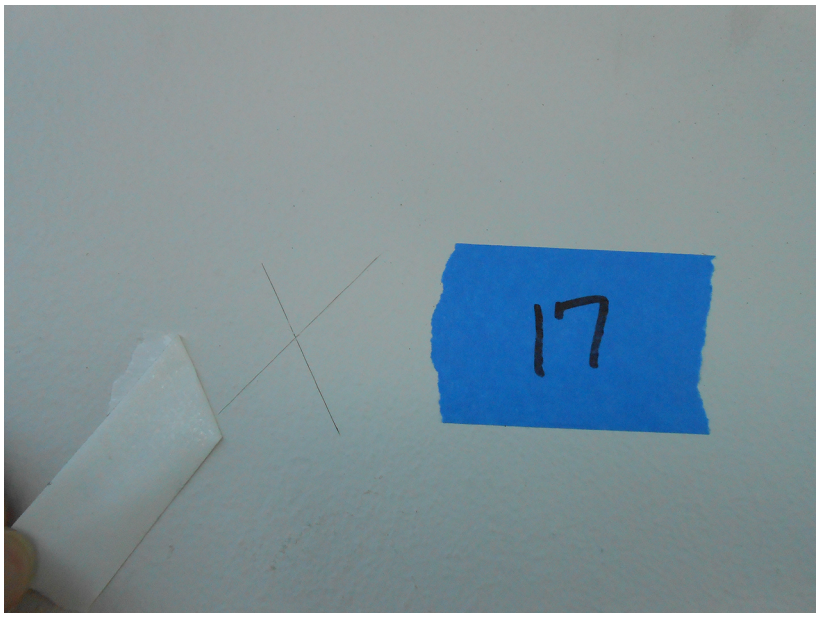
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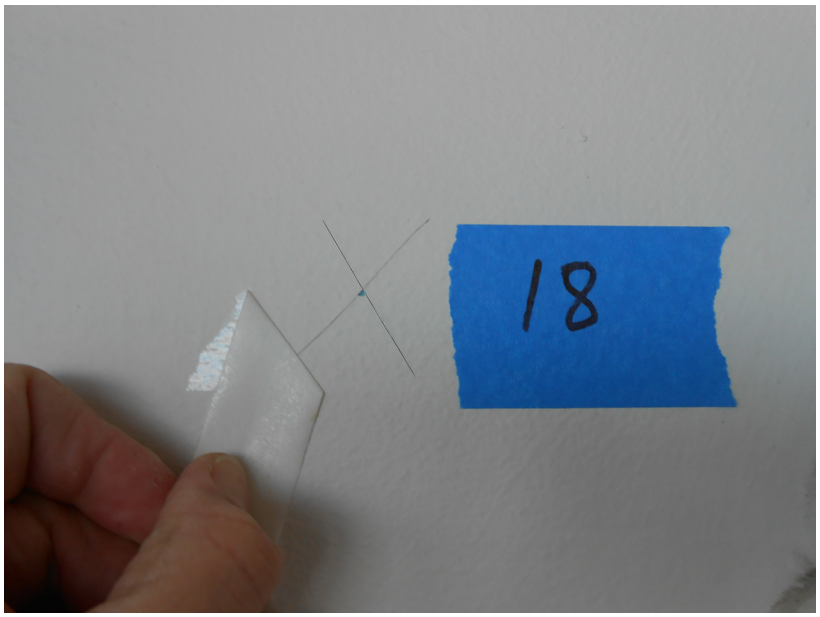
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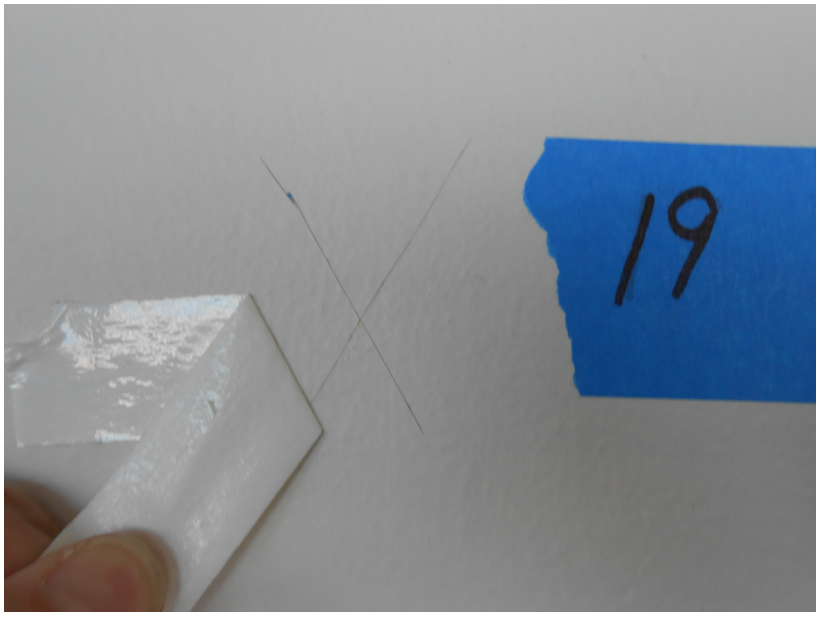
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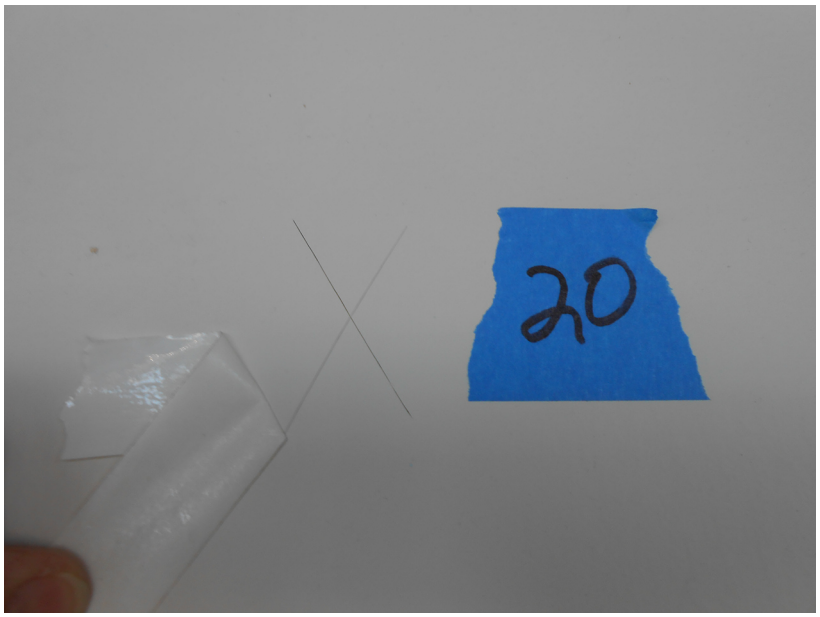
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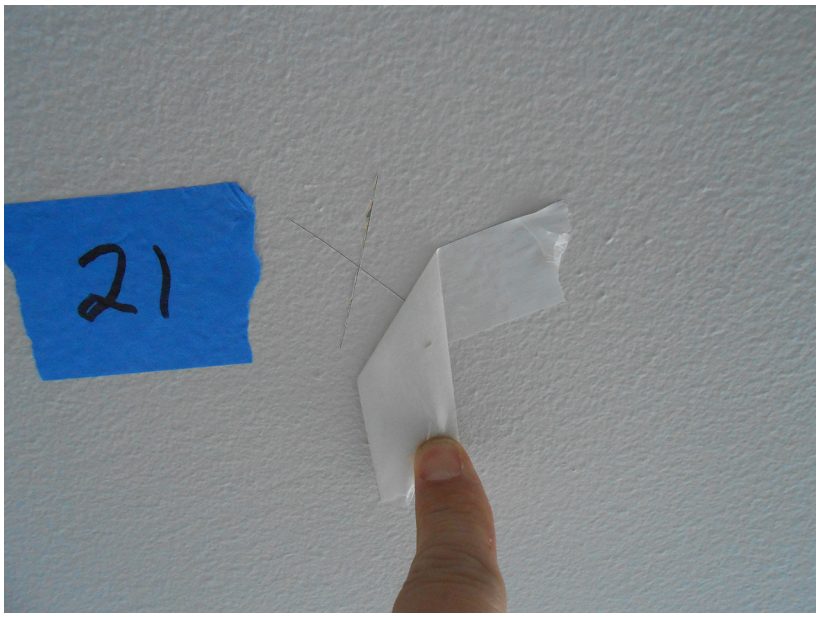
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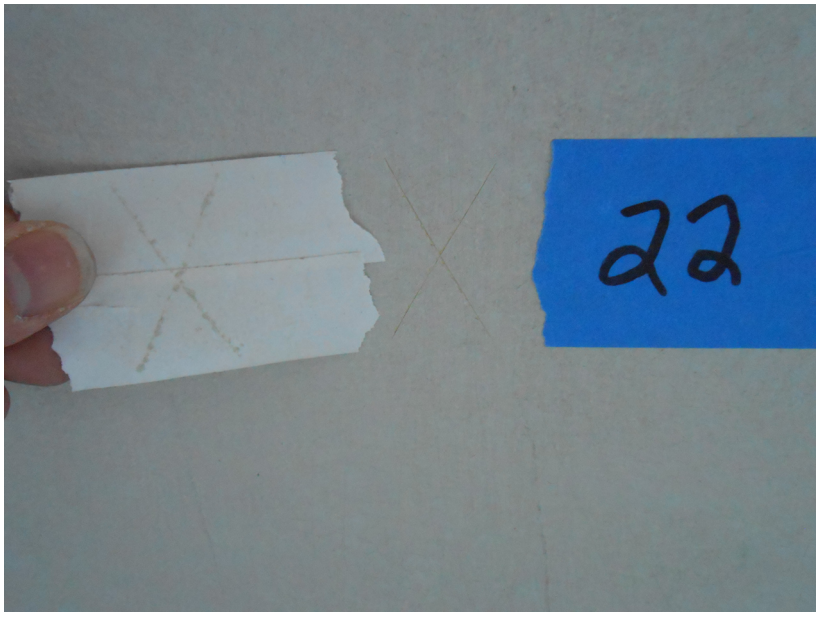
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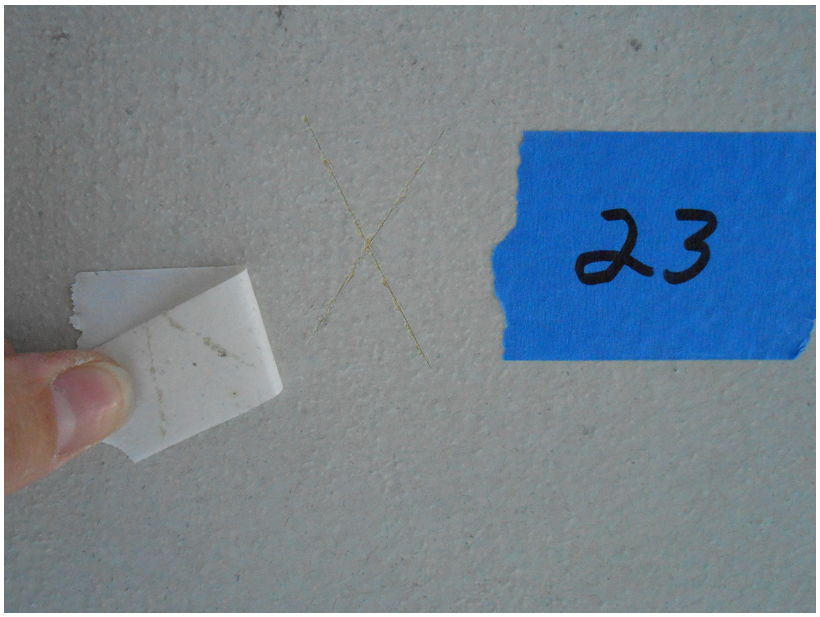
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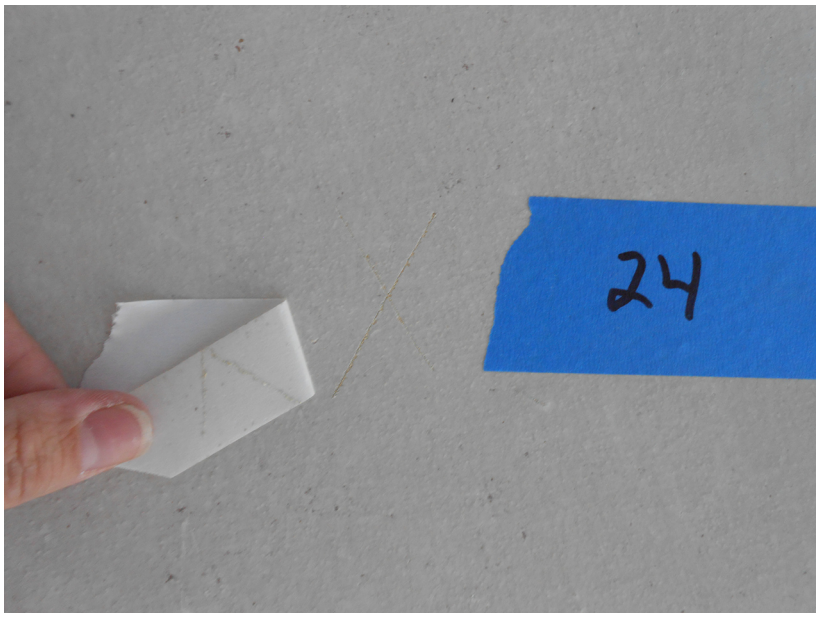
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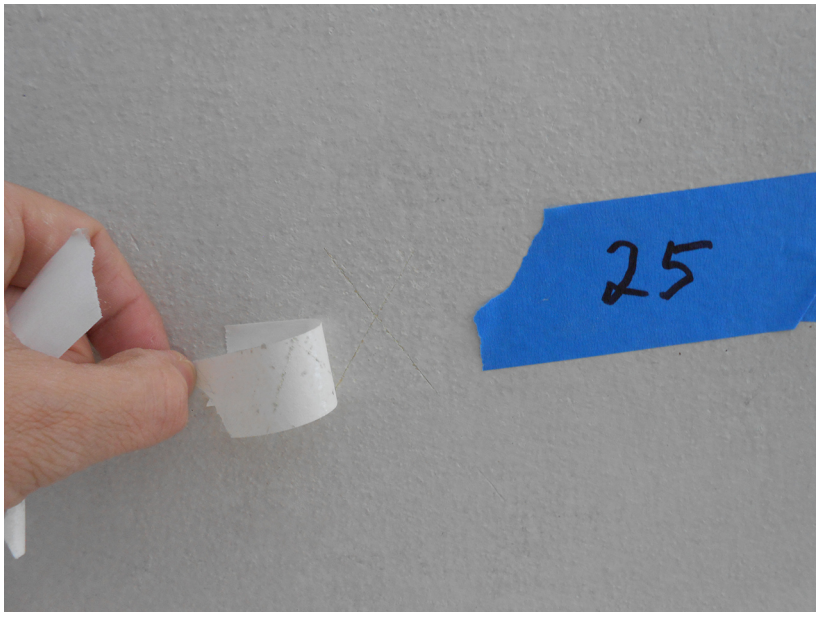
PS-47.JPG



PS-48.JPG



PS-49.JPG



PS-50.JPG

APPENDIX D:

Contract Documents:

Award Letter
Notice to Proceed
Executed Modification 1
COR Acknowledgement
Executed Modification 2
Letter of Final Acceptance
JCS Warranty Letter

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS
150 Commerce Court | Cheshire CT | 06410
www.canning-studios.com | 203-272-9868

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Building 201 Fort Mason
San Francisco, CA 94123
(415) 415-4797

A7217 (GOGA-ACP)
SAFR-165462
P13PC00340

September 13, 2013

NOTICE OF AWARD

CONTRACT NO. P13PC00340

Mr. David Riccio
John Canning & Co., Ltd.
150 Commerce Court
Cheshire, CT 06410

Dear Mr. Riccio:

Reference: San Francisco Maritime National Historical Park, San Francisco County, CA, Contract No. P13PC00340, Bay View Room Mural and Ceiling Restoration, Package No. SAFR-165462

Subject: Notice of Award

We are pleased to notify you that your proposal submitted for the referenced project has been accepted, and a contract is awarded to you in the amount of $186,000.00.

Please note that your contract award number is P13PC00340.

Enclosed is an executed copy of Standard Form 1442, Solicitation, Offer, and Award; required submittals; pay estimate will be sent electronically; Release of Claims; and Standard Form 25, Performance Bond, and the Standard Form 25-A, Payment Bond.

Monthly progress payments are to be submitted via ipp.gov, with the Pay Estimate form and appropriate backup documentation attached. The Release of Claims is to be completed and submitted with your final request for payment. You may access, at no cost to you, invoice payment information on-line through ipp.gov.

Execute the performance and payment bonds and return one (1) copy to this office within 10 days, keeping the other copy for your records. Both the Performance Bond and Payment Bond shall be in the amount of $186,000.00.

Each copy of the performance and payment bonds must be accompanied by a currently dated Power of Attorney disclosing the authority of the agent or officer executing said bonds on behalf of the surety.

TAKE PRIDE® IN AMERICA

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Building 201 Fort Mason
San Francisco, CA 94123
(415) 415-4797

IN REPY REFER TO:
A7217 (GOGA-ACP)
SAFR-165462
P13PC00340

NOTICE TO PROCEED AND CONTRACT TIME

Mr. David Riccio
John Canning & Co., Ltd.
150 Commerce Court
Cheshire, CT 06410

Reference: San Francisco Maritime National Historical Park, San Francisco County, CA, Contract No. P13PC00340, Bay View Room Mural and Ceiling Restoration, Package No. SAFR-165462

Subject: Notice to Proceed

Dear Mr. Riccio:

You are hereby notified to proceed with the work (mobilization and all other construction activities) on January 9, 2014. That date will then become the first calendar day of the contract period. In accordance with the contract clause at F.1, 52-211-10 Commencement, Prosecution and Completion of Work, the contract completion date was stated as February 28, 2014, however this was based on a notice to proceed date of November 15, 2013. This period equates to 105 calendar days. As this notice to proceed is issued effective January 9, 2014, unless extensions are granted, the new contract completion date becomes April 24, 2014.

Please acknowledge your agreement to this notice by signing, dating, and returning it to this office, and retaining one copy for your files.

Sincerely,

Dane L. Johnson
Contracting Officer

****

Received and Concurred: By: _____ Title: VP of Operations

Date: 2/10/14

cc
GOGA, Todd Bloch
GOGA, Barbara Helphrey

TAKE PRIDE IN AMERICA

SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)	1. SOLICITATION NO.	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES
	P13PS01312	☐ SEALED BID (IFB) ☐ NEGOTIATED (RFP)		1 3

IMPORTANT -- The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.
P13PC00340	0040099094	165462

7. ISSUED BY	CODE	8. ADDRESS OFFER TO
NPS, PWR - GOGA MABO Building 201, Fort Mason San Francisco CA 94123	PPG	

9. FOR INFORMATION CALL:	a. NAME	b. TELEPHONE NO. (Include area code) (NO COLLECT CALLS)
	Dane Johnson	(415) 561-4792

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder."

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date)

SAFR 165462 Bay View Room Mural and Ceiling Restoration

BEST VALUE CONSTRUCTION CONTRACT for Project 165462, Restoration of the historic wall and ceiling mural located in the Bay View Room of the Aquatic Park Bathouse, San Francisco Maritime National Historical Park in San Francisco, CA. Work shall be performed in accordance with the technical specifications and drawings. This project is being solicited as a total small business set-aside. The North American Industry Classification (NAICS) Code is 236220 and the size standard is $33.5M of average annual receipts for the past three years. The estimated price range is between $150,000 and $200,000. Persons intending on offering a proposal should attend the pre-proposal conference. See Section L for location and date. Solicitation and all information, notices, and amendments for this solicitation will be posted at: https://www.fbo.gov, and https://www.fedconnect.net/FedConnect/Default.htm.

11. The Contractor shall begin performance 10 calendar days and complete it within 105 calendar days after receiving
☐ award, ☒ notice to proceed. The performance period is ☒ mandatory ☐ negotiable. (See Contract Clause 52.211-10 .)

12a. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? ☒ YES ☐ NO
(If "YES", indicate within how many calendar days after award in Item 12b.)

12b. CALENDAR DAYS: 10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

a. Sealed offers in original and _____ copies to perform the work required are due at the place specified in Item 8 by _____ (hour) local time _____ (date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

b. An offer guarantee ☒ is, ☐ is not required.

c. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

d. Offers providing less than 180 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

NAME OF OFFEROR OR CONTRACTOR
JOHN CANNING & CO, LTD.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Delivery: 02/28/2014 Payment Terms: PP14 Delivery Location Code: 0009060632 NPS, San Francisco Maritime NHP Fort Mason Center, Building E San Francisco CA 94123 US Account Assignment: P G/L Account: 6900.F0000 Business Area: P000 Commitment Item: 254A00 Cost Center: PPPWSAFR00 Functional Area: PPMOMFM7R.M00000 Fund: 134P103607 Fund Center: PPPWSAFR00 Project/WBS: PH.P0165462B.00.1 PR Acct Assign Line: 01 FOB: Unknown				
00010	To furnish all labor, material, tools, transportation, and management necessary to restore the Bay View Room Mural and Ceiling in accordance with the drawings and specifications. Obligated Amount: $186,000.00 IT Approval Num: N				186,000.00
	The total amount of award: $186,000.00. The obligation for this award is shown in box 22.				

Following receipt of acceptable bonds, you will be notified as to the tentative date and place of the pre-construction conference. One week prior to the pre-construction conference, provide the following items in accordance with Division 1 and other requirements of the Contract Documents:

- Letter designating your Project Superintendent
- Your proposed Construction Progress Schedule
- A comprehensive breakdown of your Schedule of Values
- Your Accident Prevention Plan
- A list of subcontractors for this project – Must be same as in your proposal
- Written statements from your subcontractors certifying compliance with applicable labor standard clauses using Standard Form 1413
- Satisfactory evidence of liability insurance coverage and workman's compensation for the contractor and all subcontractors
- Your Waste and Recycling Plan (if required)
- Your Quality Control Plan
- Storm Water Pollution Prevention Plan
- Indoor Air Quality (IAQ) Management Plan (if required)

All items listed must be provided to the Contracting Officer before the pre-construction conference is held. If all of these documents have not been received one week prior to the scheduled pre-construction conference date, the conference will be cancelled, Notice to Proceed will not be issued, and the Contracting Officer will consider other contractual remedies.

Do not commence work until you receive the written Notice to Proceed.

Sincerely,

Dane L. Johnson
Contracting Officer

Enclosures
SF 1442
Release of Claims

Cc
SAFR PM, Robbyn Jackson
SAFR COR, Todd Bloch

OFFER (Must be fully completed by offeror)

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)	15. TELEPHONE NO. (Include area code)
JOHN CANNING & CO, LTD. Attn: ATTN GOVERNMENT POC 150 COMMERCE CT CHESHIRE CT 06410-1253	000-000-0000
	16. REMITTANCE ADDRESS (Include only if different than item 14.) JOHN CANNING & CO, LTD.

CODE 0071342268 FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in item 13d. Failure to insert any number means the offeror accepts the minimum in item 13d.)

AMOUNTS ▶

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGEMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)

AMENDMENT NO.										
DATE										

20a. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)	20b. SIGNATURE	20c. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

Continued...

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
$186,000.00	01

24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ▶ ITEM 27

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO
☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )

26. ADMINISTERED BY	CODE PPG	27. PAYMENT WILL BE MADE BY
DOI, NPS, PWR - GOGA MABO Building 201, Fort Mason San Francisco CA 94123		Invoice Processing Platform System US Department of Treasury http://www.ipp.gov

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT

(Contractor is required to sign this document and return _____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations,

☒ 29. AWARD

(Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30a. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)	31a. NAME OF CONTRACTING OFFICER (Type or print)
DAVID RICCIO, VICE PRESIDENT	Dane Johnson
30b. SIGNATURE	30c. DATE: 9/16/13
	31b. UNITED STATES OF AMERICA BY	31c. DATE: 9/13/13

STANDARD FORM 1442 (REV. 4-85) BACK

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Bldg 201, Fort Mason
San Francisco CA 94123-1304
(415) 561-4790

IN REPLY REFER TO:

A7217 (GOGA-ACP)

January 23, 2014

MEMORANDUM

SUBJECT: Designation of Contracting Officer's Representative (COR), Todd Bloch

1. Pursuant to FAR 1.6 and DIAR 1401.670, you are designated as the Contracting Officer's Representative (COR) in administration of the following Contract:

Contract Number: P13PC00340

For: Bay View Room Mural and Ceiling Restoration

Contractor: John Canning & Co., Ltd

Contract Period: TBD

COR Contact Info: 415-561-7123, todd_bloch@nps.gov

2. You are authorized by this designation to take action with respect to the following:

a. Verify that the Contractor performs the technical requirements of the contract according to contract terms, conditions and specifications. Specific emphasis should be placed on the quality provisions, for adherence to the contract provisions and to the Contractor's own quality control program.

b. Perform inspections necessary in connection with Paragraph 2a and verify that the Contractor corrects all deficiencies and perform acceptance for the Government of services performed under this contract.

c. Maintain liaison and direct communications with the Contractor. Any written communications with the Contractor and other documents pertaining to the contract shall be signed as "Contracting Officer's Representative" and a copy shall be furnished to the Contracting Officer.

d. Monitor Contractor performance; notify the Contractor of any deficiencies observed during surveillance and direct appropriate action to effect correction. Record and report to the Contracting Officer incidents of faulty or nonconforming work, delays and/or problems. In addition, you are required to submit reports concerning performance of services rendered under this contract.

e. Coordinate site entry for Contractor personnel and insure that any Government-furnished property is available when required.

TAKE PRIDE IN AMERICA

3. You are not empowered to award, agree to, or sign any contract (including delivery orders) or contract modification, or in any way to obligate the payment of money by the Government. You may not take any action which may affect contract or delivery order schedules, funds or scope.

Only the Contacting Officer shall make contractual agreements, commitments, or modifications that involve price, quantity, quality, delivery schedules or other terms and conditions of the contract. If you act beyond your delegated authority, you may be personally liable for any unauthorized acts.

4. This designation as a COR shall remain in effect through the life of the contract, unless sooner revoked in writing by the Contracting Officer or unless you are separated from Government service. If you are to be reassigned or to be separated from Government service, you shall notify the Contracting Officer sufficiently in advance of reassignment or separation to permit timely selection and designation of a successor COR. If your designation is revoked for any reason before completion of this contract, turn your records over to the successor COR or obtain disposition instructions from the Contracting Officer.

5. You are required to maintain adequate records to sufficiently describe the performance of your duties as a COR during the life of this contract and to dispose of such records as directed by the Contracting Officer. As a minimum, the COR file shall contain the following:

a. A copy of your letter of appointment from the Contracting Officer, a copy of any changes to that letter and a copy of any termination letter.

b. A copy of the contract or the appropriate part of the contract and all contract modifications.

c. A copy of all correspondence initiated by authorized representatives concerning performance of the contract.

d. A record of inspections performed and the results.

e. Memoranda for record or minutes of any pre-performance conferences.

f. Memoranda for record of minutes of any meetings and discussions with the Contractor or others pertaining to the contract or contract performance.

g. Documentation pertaining to your acceptance of performance of services, including reports and other data.

6. All personnel engaged in contracting and related activities shall conduct business dealings with industry in a manner above reproach in every aspect and shall protect the U.S. Government's interest, as well as maintain its reputation for fair and equal dealings with all Contractors.

7. CORs shall avoid the appearance of a conflict of interests to maintain public confidence in the U.S. Government's conduct of business with the private sector.

8. You are required to acknowledge receipt of this designation and return it to the Contracting Officer. Your signature also serves as certification that you have read and understand the contents of this Letter of Designation as Contracting Officer's Representative (COR).



Dane L. Johnson
Contracting Officer

cc: John Canning & Co., Ltd.

Receipt of this designation is acknowledged.

DOROTHEA HELLNESEY

Name: (Print or type)

Signature

V.P. OPERATIONS

Title

1/27/14

Date

Telephone: 203-272-9868 X1.300

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
0002	04/09/2014		165462

6. ISSUED BY	CODE	7. ADMINISTERED BY *(If other than Item 6)*	CODE
NPS, PWR - GOGA MABO Building 201, Fort Mason San Francisco CA 94123	PPG	DOI, NPS, PWR - GOGA MABO Building 201, Fort Mason San Francisco CA 94123	PPG

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

JOHN CANNING & CO, LTD.
Attn: ATTN GOVERNMENT POC
150 COMMERCE CT
CHESHIRE CT 06410-1253

CODE 0071342268 FACILITY CODE

(X) 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED *(SEE ITEM 11)*

X 10A. MODIFICATION OF CONTRACT/ORDER NO. P13PC00340

10B. DATED *(SEE ITEM 13)* 09/13/2013

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*
See Schedule

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Contract Clause 52.243-4 "Changes" June 2007
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

SAFR Bay View Room Mural and Ceiling Restoration.

Technical POC: Todd Bloch, 415-561-7123
Contracting POC: Dane Johnson, 415-561-4792

Modification No. 0002. This modification removes original work from the scope, and adds new work. The total contract amount is unchanged. The contract completion date remains April 24, 2014.

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*	16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*
DAVID RICCIO, VICE PRESIDENT	Dane Johnson
15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*	15C. DATE SIGNED
	4/10/14
16B. UNITED STATES OF AMERICA *(Signature of Contracting Officer)*	16C. DATE SIGNED
	4/28/14

NSN 7540-01-152-8070
Previous edition unusable

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Contract Line Item No. 40 - Removal of Overpaint Layers.... The quantity of paint removal is reduced by 75%. Deduct $26,250.00 New Contract Line Item 80 - Plaster and Canvas Repairs a. Plaster Repairs Add $11,250.00 b. Canvas Replacement at Walls and Ceilings Add $5,500.00 c. Plaster Reattachment at Ceiling at Various Locations Add $5,000.00 Total Add for Plaster and Canvas Repairs - $21,750.00 New Contract Line Item No. 90 - New Solid Core Wood Door Replace modern door with a historic replica. The scope includes demolition and reconstruction of the door frame, custom fitting of specialized door hardware, and painting of a mural on the door. Add $4,500.00 Except as modified above, all work shall be performed in accordance with the provisions of the contract where applicable as determined by the Contracting Officer or as otherwise directed by the Contracting Officer. This Modification No. 0002 does not change the overall contract amount, which remains $186,000.00. The contract amount is accordingly established as follows: Continued ...				

NAME OF OFFEROR OR CONTRACTOR
JOHN CANNING & CO, LTD.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Original Contract Amount - $186,000.00 Modification No. 0001 [No cost] $ 0.00 Modification No. 0002 [No cost] $ 0.00 Revised Contract Amount $186,000.00 No additional contract time will be allowed as a result of the extra work involved, thus the contract completion date remains April 24, 2014. The foregoing Modification No. 0002 is satisfactory and is hereby accepted. In accepting this Modification No. 0002, the contractor acknowledges that he has no unsatisfied claims against the Government arising out of or resulting from this modification, and the contractor hereby releases and discharges the Government from any and all claims or demands whatsoever arising out of or resulting from this modification. Payment Terms: PP14 Period of Performance: 01/09/2014 to 04/24/2014				

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Building 201 Fort Mason
San Francisco, CA 94123

A7217 (GOGA-ACP)
SAFR-165462
P13PC00340

LETTER OF ACCEPTANCE (FINAL) AND REQUEST FOR RELEASE OF CLAIMS

Mr. David Riccio
John Canning & Co., Ltd.
150 Commerce Court
Cheshire, CT 06410

Dear Mr. Riccio:

Reference: San Francisco Maritime Nat'l Hist. Park, San Francisco County, CA, Contract No. P13PC00340, Bay View Room Mural & Ceiling Restoration, Project No. SAFR-165462

Subject: Letter of Acceptance (Final) and Request for Release of Claims

We have been advised that completion of all items on the "punch list" furnished have been satisfactorily accomplished. Accordingly, all work under the contract is accepted as of April 11, 2014, subject to the terms and conditions of the contract.

Please execute the enclosed Release of Claims, which is based on the final pay estimate.

- Please insert the word "None" in the blank provided for exceptions if no outstanding claims exist.
- If the contractor is a corporation, the certification (Complete Only if Contractor is a Corporation section) must be completed by an individual or officer of the corporation other than the one executing the release. If applicable, the corporation seal shall also be affixed.
- Keep one copy for your files and return two originals to this office.

Final payment on your contract will not be made until this release has been signed and furnished to this office.

Sincerely,

Dane L. Johnson
Contracting Officer

Enclosures
cc: SAFR-COR, Todd Bloch

JOHN CANNING & CO LTD
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WARRANTY

San Francisco Maritime National Historical Park
Maritime Museum Building

Bay View Mural and Ceiling Restoration
San Francisco, California

CONTACT NO. P13PC00340

Date: April 29, 2014

Owner: National Park Service

Date of Substantial Completion: APRIL 11, 2014

*To the best of our knowledge the **090150-Replication of Historic Decorative Painting** work performed by John Canning & Co., Ltd. (JCCL) has been done in strict accordance with the drawings and specifications as amended and that the work installed has fulfilled the requirements of those specifications and is free from defects in workmanship. JCCL warrants this work for a period of twelve (12) months from date of Substantial Completion. Failures caused by actions or conditions beyond the control of JCCL, including but not limited to ordinary wear and tear, abuse, improper treatments, environmental conditions, repairs or modifications, are not covered by this warranty.*

Signed _____ Date April 29, 2014
Dorothea Hennessey, Principal

150 Commerce Court
Cheshire, CT 06410

Telephone (203) 272-9868
Facsimile (203) 272-9879

www.canning-studios.com

APPENDIX E:

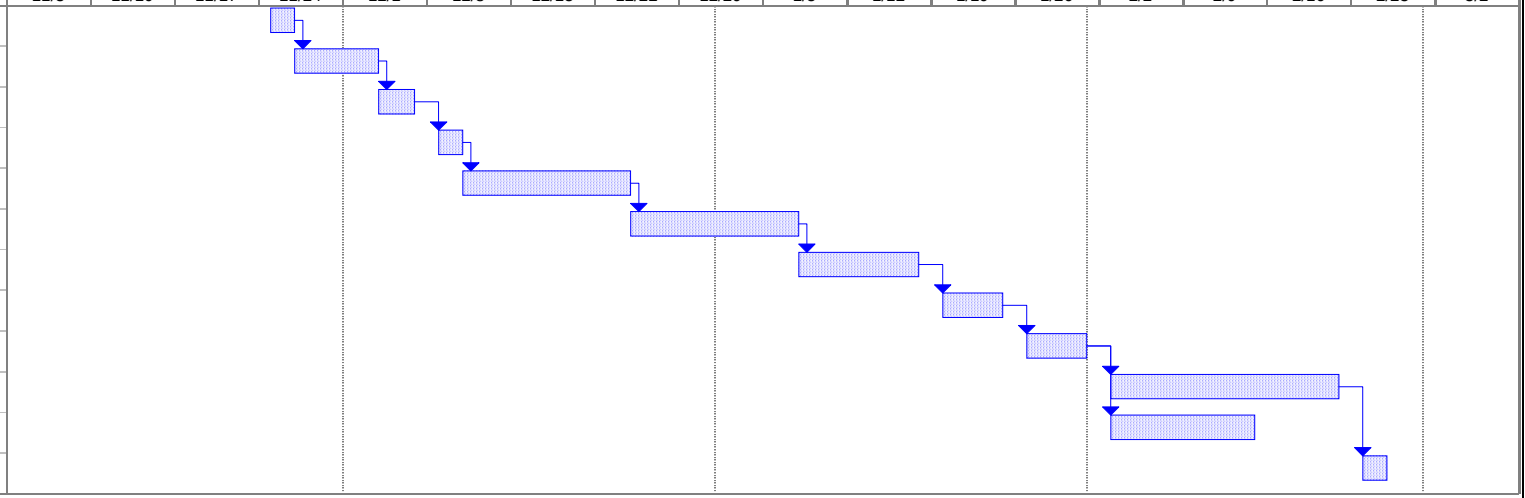
Project Documents:

Project Schedule
Conservation Work Plan
JCS Jobsite Daily Log
NPS Log of Daily Construction

JOHN CANNING & CO LTD
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150 Commerce Court | Cheshire CT | 06410
www.canning-studios.com | 203-272-9868

Bay View Room Mural
SF Maritime National Historical Park
Preliminary Schedule

ID	Task Name
1	Mobilize
2	Paint Study
3	Paint Removal Trials
4	(Full) Restoration Protection
5	Paint Removal at Ceiling
6	Paint Removal at Walls
7	Surface repairs and preeparation
8	Decorative Paint Mockups
9	Painting of Ceiling and Walls
10	Decorative Painting at Walls
11	Painting of Doors and Windows
12	Punch List



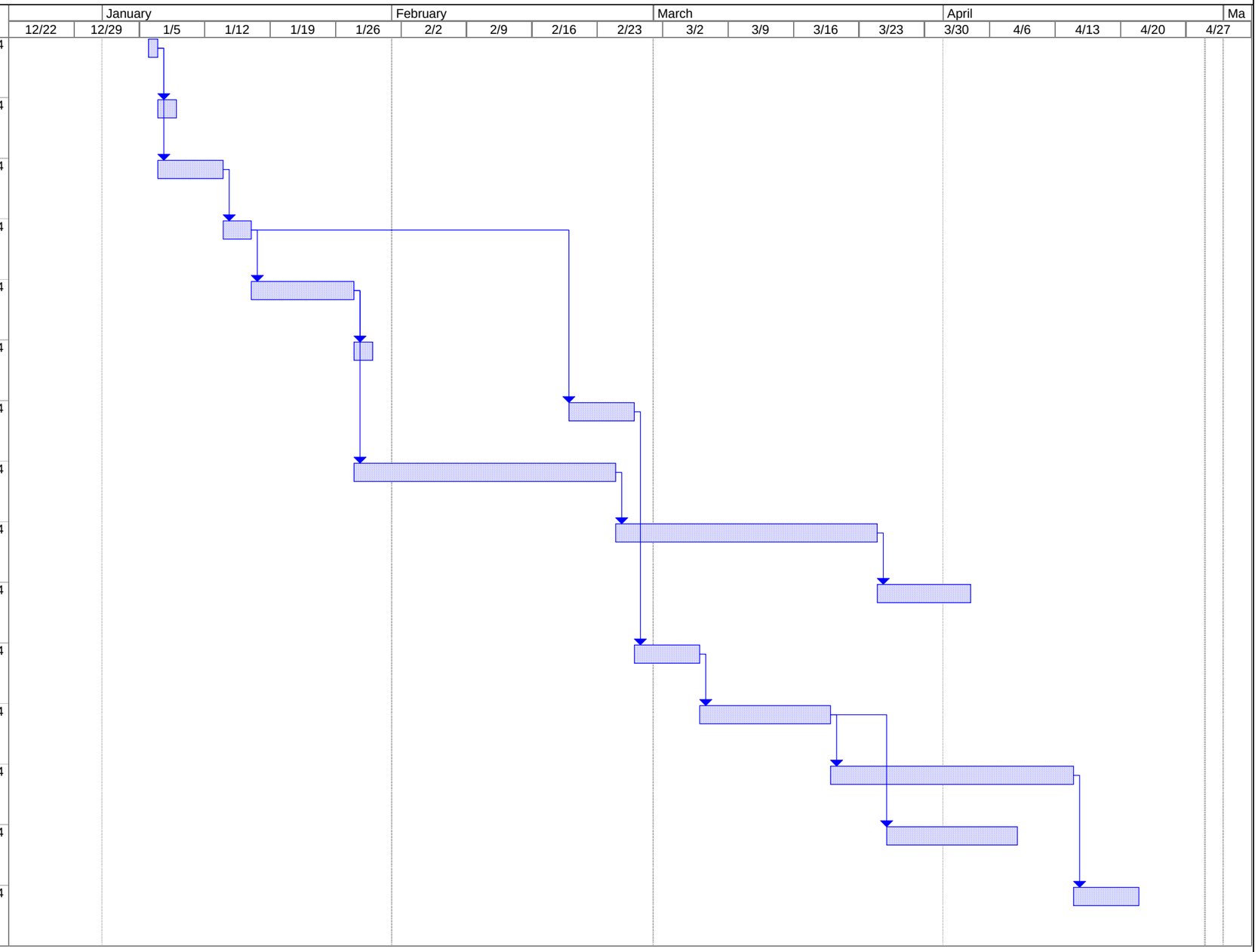
Project: Bay View room Preliminary Sc
Date: Fri 8/30/13

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Bay View Room Mural
SF Maritime National Historical Park
Preliminary Schedule

UPDATED: Tue 11/26/13

ID	Task Name	Duration	Start	Finish
1	Pre-Construction Meeting	1 day	Mon 1/6/14	Mon 1/6/14
2	Mobilize	2 days	Tue 1/7/14	Wed 1/8/14
3	Paint Study - On site Investigation and Sample Extraction	5 days	Tue 1/7/14	Mon 1/13/14
4	Paint Removal Trials	3 days	Tue 1/14/14	Thu 1/16/14
5	Preliminary Findings Report & Recommendations	7 days	Fri 1/17/14	Mon 1/27/14
6	(Full) Restoration Protection	2 days	Tue 1/28/14	Wed 1/29/14
7	Laboratory Paint Analysis & Findings Report	5 days	Thu 2/20/14	Wed 2/26/14
8	Paint Removal at Ceiling	20 days	Tue 1/28/14	Mon 2/24/14
9	Paint Removal at Walls	20 days	Tue 2/25/14	Mon 3/24/14
10	Surface repairs and preparation	8 days	Tue 3/25/14	Thu 4/3/14
11	Decorative Paint Mockups	5 days	Thu 2/27/14	Wed 3/5/14
12	Painting of Ceiling and Walls	10 days	Thu 3/6/14	Wed 3/19/14
13	Decorative Painting at Walls	18 days	Thu 3/20/14	Mon 4/14/14
14	Painting of Doors and Windows	10 days	Wed 3/26/14	Tue 4/8/14
15	Punch List	5 days	Tue 4/15/14	Mon 4/21/14



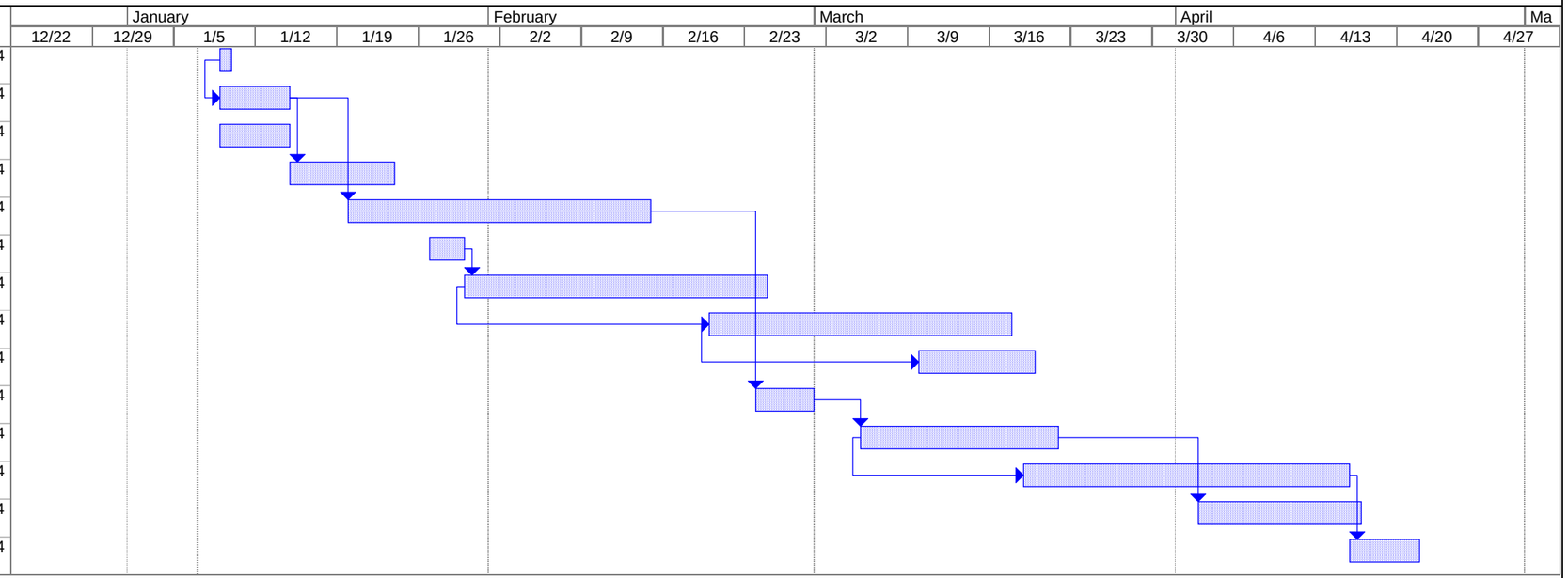
Project: Bay View room Preliminary Sc
Date: Tue 11/26/13

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Bay View Room Mural
SF Maritime National Historical Park
Preliminary Schedule

UPDATED: Tue 1/7/14

ID	Task Name	Duration	Start	Finish
1	Pre-Construction Meeting	1 day	Thu 1/9/14	Thu 1/9/14
2	Paint Study - On site Investigation and Sample Extraction	4 days	Thu 1/9/14	Tue 1/14/14
3	Paint Removal Trials	4 days	Thu 1/9/14	Tue 1/14/14
4	Preliminary Findings Report & Recommendations	7 days	Wed 1/15/14	Thu 1/23/14
5	Laboratory Paint Analysis & Findings Report	20 days	Mon 1/20/14	Fri 2/14/14
6	(Full) Restoration Protection	3 days	Mon 1/27/14	Wed 1/29/14
7	Paint Removal at Ceiling	18 days	Thu 1/30/14	Mon 2/24/14
8	Paint Removal at Walls	18 days	Thu 2/20/14	Mon 3/17/14
9	Surface repairs and preparation	8 days	Mon 3/10/14	Wed 3/19/14
10	Decorative Paint Mockups	5 days	Mon 2/24/14	Fri 2/28/14
11	General Paint Application at Ceiling and Walls	13 days	Wed 3/5/14	Fri 3/21/14
12	Decorative Painting at Walls (Glaze Treatment)	20 days	Wed 3/19/14	Tue 4/15/14
13	Painting of Doors and Windows	10 days	Thu 4/3/14	Wed 4/16/14
14	Punch List	4 days	Wed 4/16/14	Mon 4/21/14



Project: Bay View room Preliminary Sc
Date: Tue 1/7/14

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

JOHN CANNING & CO LTD
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WORK PLAN:
Protection, Barriers, Conservation, Decorative Paint Repliaction, Plaster Patching, and General Cleaning

NOVEMBER 26, 2013
SAN FRANCISCO MARITIME NATIONAL HISTORICAL PARK
MARITIME MUSEUM BUILDING
BAY VIEW ROOM MURAL AND CEILING RESTORATION

Protection (General):

1. Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation.
2. Temporary Protection of Historic Materials during Construction:
   2.1. Use painter's paint, duct tape, poly sheeting, dense foam board, and masonite, as required to protect existing materials. Remove tape residue prior to any repainting and at the completion of project.
   2.2. Review any temporary attachments with Contracting Officer prior to installation.
   2.3. On a regular basis, review installed protection, to ensure adequate attachment and function.
   2.4. Protect windows and floor with poly-sheeting, attached with painter's tape.
   2.5. Floor to have additional protection of drop cloths, or heavy duty construction paper, such as Rhino brand.
   2.6. Provide temporary floor mats at work entrance.
   2.7. Beneath gang box (storage), install tarpaulin and chemical resistant plastic sheeting.
   2.8. Where work requires existing features to be removed, label each item with painter's tape for later reinstallation. Store removed items in containers, and protects from impact or other damage, reinstall according to manufacturer's procedures.
   2.9. Signage will be posted at entrances and around the building at locations designated by the Contracting Agency to inform of routine/access changes, and for cautionary purposes.
   2.10. Temporary construction cones, "A" frame stands, and caution tape will be used as required to warn pedestrians and to redirect passage, if required. All use of these items will be coordinated with the Contracting agency.

Conservation Research & Documentation:

1. Review any archival documents/photographs provided by Contracting Agency.
2. Review previous reports.
3. Extract samples for microscopy analysis. Samples to be extracted mechanically, using scalpels and small hand tools. Extraction samples to include small portions of the plaster substrate. Each sample to be uniquely labeled and placed in a separate envelope.
4. In the laboratory, each sample will be mounted in a clear resin and examined in normal reflected light, and under illumination conditions that simulate daylight (fiber optic illuminator) for the purpose of color-corrected stratigraphy identification. The samples to be examined microscopically using a Stereo Zoom microscope with 10X-63X magnification. In an effort to determine the presence

of a glaze, the samples will be examined under polarized light using a polarizing light microscope with ultraviolet illuminator.

5. The earliest finishes will be recorded using a descriptive color name rather than a standardized color notation system. This will be done to document the striation of the samples for comparative purposes. Under illumination conditions that simulate natural daylight, the original finish layers will be matched to both a standardized universal color system (Munsell) and a commercial paint color system (Benjamin Moore). A color designation and a representative color swatch from this system will be provided.
6. Annotate construction drawings showing sample extraction locations.
7. All information found during procedures 4 and 5 will be documented in a laboratory findings report.
8. Field exposures will be executed at various locations, and as detailed in the construction drawings.
9. Exposures will include a variety of techniques, tools, and chemicals to achieve the best results.
10. Mechanical Exposures: peel layers of over paint off, to reveal historic finishes using scalpels, razors, and Exacto knifes.
11. Chemical exposures: install temporary protection and duct tape exposure perimeter.
    11.1. Test solvents and chemical removers to determine which products remove over paint without removing original finish treatment. Following manufacturer's recommended procedures, repeat as necessary to remove over paint.
    11.2. Neutralize chemical reaction following manufacturer's recommendations.
    11.3. Clean off residue.
    11.4. Saturate exposures with Acryloid B-72.
12. At existing painted walls prepare adhesion testing to determine locations requiring paint removal to sound paint.
    12.1. Follow testing procedures for Method B in ASTM D3359 *Standard Test Method s for Measuring Adhesion by Tape Test.*
13. Compile and interpret findings for laboratory analysis, exposures, field testing, and archival documents into a Finding's Report with recommended specific restoration/replication procedures and materials.

Replication walls and ceiling:

1. Based on above findings and recommendations, replicate original decorative treatment.
    1.1. Sand existing paint to reduce texture at sound surfaces using 120-220 grit paper.
    1.2. At surfaces at require paint removal; remove paint by applying chemical paint remover in accordance with manufacturer's recommended procedures. Repeat as necessary to reach sound surface.
        1.2.1. Clean paint removed surface with paint thinner to remove any paint remover residue.
    1.3. General: Following sanding and paint removal procedures, remove loose dirt by vacuuming and dusting surfaces. Wash off any grease with degreaser agent.
        1.3.1. Wash surfaces to be painted with water and 5% clear ammonia. Ratio 20 parts water to 1 part clear ammonia.
    1.4. At surfaces with nail holes, dents, gouges, craters and minor imperfections fill with vinyl spackle. Sand to level surface.
    1.5. Larger areas that require plaster patching will be prepared by removing loose and damaged plaster to sound substrate free of dust. Apply USG EasySand plaster filler to the damaged area

in accordance with manufacturer's recommendations. Repeat as necessary to level surface to adjacent area. Sand as necessary to smooth plaster finish.

1.6. Canvas that requires reattachment, peel back surface, if possible, and wash plaster substrate with warm water to remove existing adhesive. Apply vinyl wallpaper adhesive with brush and reset canvas by gently pressing canvas to the surface with rollers and smoothing knifes.

1.6.1. If canvas cannot be peeled, inject vinyl wallpaper adhesive or Beva Gel using syringes through the canvas and filling the void between canvas and plaster wall. Spread adhesive using smoothing knife and roller.

1.5 Spot prime patching with acrylic primer.

1.6 Apply primer and finish (BM Aura) with two applications in color(s) to match colors identified in Findings Report.

1.7. At mural locations, apply transparent glaze treatment in colors identified in Findings Report. Manipulate glaze with brushes and other tools in a manner that matches original installation process.

1.7.1. Glaze Material Option One: Sherwin Williams Faux Impressions Alkyd Glaze and Sheffield universal pigments.

1.7.2. Glaze Material Option Two: Polyvine Tropical Scumble, Glaze and universal pigments.

1.7.3. The completion of the Work, all temporary signage and protection will be removed. The work area will be cleaned and vacuumed to remove all contraction related dust. Disposal of all waste and debris will be properly disposed in debris containers.

1.7.4. Interior glass will be cleaned with glass cleaner.

1.7.5. Floor to be washed with soap and water.

PRODUCT LIST:

Ajax Clear Household Ammonia
Benjamin Moore Aura Latex Interior Paint Egg Shell Finish
Benjamin Moore Fresh Start Latex Interior Primer
Beva Gel
DAP Vinyl Spackle
Klean Strip Acetone
Klean Strip Denatured Alcohol
Klean Strip KS-3 Premium Stripper
Klean Strip Paint Thinner
Klean Strip Toluene
Polyvine Tropical Scumble Glaze
Rohm and Hass Acryloid Paraloid B-72
Roman Heavy Duty Clear Wallpaper Adhesive
Sheffield Tintsall Universal Tints
Sherwin Williams Faux Impressions Latex Glaze
Universal Pigments
USG Easy Sand
Windex Glass Cleaner
Zep Heavy Duty Citrus Degreaser

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 1.27.2014
Supervisor: Mike Nelson
Crew:

Work Description: Mobilize the Jab and brought in supplies. Began protecting and concealing surfaces (draping windows + doors w/plastic) sealed steel door to office w/tape over seems + vents + perimiter of door. Protected light + vents. David reviewed scope of work (removal & prep procedures and canvas attachment as well as plaster repairs.

~~**Problems/Concerns:**~~

Discussions: Met w/ Todd & Bill as intro. Carpenter cut into plaster & resests light switch box. & charged lock on Kitchen door to restrict access to room.

~~**Special Assignments or Direction:**~~ Todd cut the combination lock for the veranda entrance. Combination was accidetaly changed while we where not on sight.

~~**Meetings/Discussions:**~~

Projections for next day: Complete installation of protection and begin prep work. David will work with me on sample of canvas reattachment and replacement.

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 1.28.2014
Supervisor: Mike Nelson
Crew:

Work Description: Received delivery of paint and canvas. Continued protection of vents doors w/plastic. Sealed Kitchen door. Removed layers of paint on kitchen door w/paint stripper. cleaned rope rails on wall. Talked w/ Todd about access to slop sink (He is looking into that and will get back to me) we where told we didn't have to cover ducts but as a precaution did so any way.

~~Problems/Concerns:~~ Discussions: Met w/ M.P.S. superintendent Craig, building historian steve, and other owner reps. David explained + reviewed exposures + method of execution of original treatment + protection and surface texture.

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Final review w/Dave on surface preperation + removal + reattachment of canvas on ceiling. Application of plaster.

Materials needed:

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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 1.29.2014
Supervisor: Mike Nelson
Crew:

Work Description: Review + demo w/ Dave for reattaching canvas and removeing and replaceing damaged canvas w/ new canvas. Dave did another exposure on wall to study the color pattern.
Scaffolding was delivered

~~Problems/Concerns~~: Todd told me I could use kitchen sinks for warm water and downstairs slop sink in mens bathroom for clean up.

Special Assignments or Direction:

Meetings/Discussions: -

Projections for next day: - continue reattaching + replaceing damaged canvas.

Materials needed: - 4' foot straight edge or level for cutting long pieces of canvas.

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 1.30.2014
Supervisor: Mike Nelson
Crew:

Work Description: Continue reattaching & replaceing damaged canvas. on ceiling
Reattached some loose canvas on ceiling above street entrance (canvas drooping from possible moisture or water damage)

Problems/Concerns: Began patching areas where loose paint chips had been removed on ceiling.

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Continue prepping ceiling

Materials needed:

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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 1.31.2014
Supervisor: Mike Nelson
Crew:

Work Description: Continue prepping ceiling. Removed plaster from large tears in ceiling to prepare to resurface before replaceing canvas. Removed wood trim around top of window frames on sofit (per request of Todd previously discussed w/Dave.

Problems/Concerns: Todd asked that I remove rust on metal webbing on columns by windows before replaceing plaster that had come off of structure.

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Continue prepping ceiling and begin prepping ~~ceiling~~ sofit above windows.

Materials needed:

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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: Feb 3/2014
Supervisor: Mike Nelson
Crew:

Work Description: Continue patching ceiling. Removed loose torn canvas on 2 large holes in ceiling. Squared up and trimmed torn canvas and measured area for Dorothy to send large canvas. Began plastering large holes in ceiling to smooth surface for reapplication of new canvas.

~~**Problems/Concerns:**~~
Discussions - Todd introduced me to Robin. They had an old black n white photo of door leading into Kitchen. (They are looking into reproducing the ~~old~~ original door w/ help of photo.

~~**Special Assignments or Direction:**~~
Todd sent Dave an E-mail concerning wall color in photo that appeared to be much lighter than the dark blue color below the chair rail.

~~**Meetings/Discussions:**~~

Projections for next day:

Materials needed:

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San Francisco County, CA

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Date: 2/4/14
Supervisor: Mike Nelson
Crew:

Work Description: 1st coat of plaster on two large holes in ceiling. Began removing torn canvas on ceiling above front doors to street (some areas of crumbling plaster - removed and applied a coat of Bixz then resurfaced w/plaster)

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Bill gave me a key to access building. Talked w/ Dorothy and gave her the sizes for canvas to be shipped to patch large holes in ceiling.

Projections for next day: Continue working on soffit above front doors and around room above large windows.

Materials needed: more razor blades

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San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
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Date: 2.5.14
Supervisor: Mike Nelson
Crew:

Work Description: 2nd coat (skim coat) of plaster on large holes in ceiling. Continued removing torn canvas on soffits and remove, prime and resurface w/plaster. Removed hardware around doors & frames leading to vestibule (per NPS)

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Continue repair work on soffits around room.

Materials needed:

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Date: 2·6·14
Supervisor: Mike Nelson
Crew:

Work Description: Continue removing and reattaching canvas around soffits. Plastering where needed.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: continue working on soffits

Materials needed:

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JCS: John Canning & Co,. Ltd
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Date: 2-7-14
Supervisor: Mike Nelson
Crew:

Work Description: Sanding plaster on soffits and skim coating where needed. Reattaching canvas.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Replaceing torn canvas on soffits with new canvas over areas that had to be replaced w/ new plaster

Materials needed:

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Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

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Date: 2.10.14
Supervisor: Mike Nelson
Crew:

Work Description: Final skim coat of large holes on ceiling. Final sanding of plastered areas on soffit above large windows, & spot prime w/ Bin primer

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: spoke w/ Dave and explained that there was a lot of loose plaster that had to be resurfaced before attaching new canvas on soffits.

Projections for next day: Patch areas on soffits (w new canvas) on ceilings above windows (then plaster + sand)

Materials needed:

seam roller for new canvas

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Date: 2.11.14
Supervisor: Mike Nelson
Crew:

Work Description: Attach new canvas around top of soffits then plastered + sanded seems.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Bill came in and had me sign a paper saying he had given me a key to access the building from the first floor

Projections for next day: Final sanding of large holes on ceiling.

Materials needed: Gallon of Bin primer.

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Date: 2·12·14
Supervisor: Mike Nelson
Crew:

Work Description: Final sanding of large holes on ceiling. Bin primer on large holes. Sand main ceiling and apply Bin primer on all plastered areas on ceiling.

Problems/Concerns:

Special Assignments or Direction: Bill brought in canvas that was delivered by FedEx for large areas on ceiling.

Meetings/Discussions: Todd stopped in and told me that Monday was Presidents Day and neither he or Bill would be in. He said museum was open to the public from 10-4 and that I could come in Sat + Monday during those hours.

Projections for next day:

Materials needed: Complete any touch ups on ceiling + soffits and begin prep work on columns.

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JCS: John Canning & Co,. Ltd
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Date: 2.13.14
Supervisor: Mike Welsor
Crew:

Work Description: Touch up any spots on ceiling & soffits and begin prepping columns by windows. ~~Began~~ Began patching w/plaster around walls of room and columns.
Apply Bigs to areas that will need to be patched w/cement

Problems/Concerns: A lot of crumbleing plaster on base of columns. (5 areas will need cement work)

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Patch holes on base of columns w/cement & continue prepping walls & columns

Materials needed:

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Date: 2.14.14
Supervisor: Mike Nelson
Crew:

Work Description: Patch deep holes on base of columns w/cement Peel back ~~loose~~ loose canvas on columns (clean, bins, then apply plaster where necessary.
Remove torn canvas that will need to be replaced on columns.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Apply Bins to cemented areas and apply first coat of plaster to cemented areas + sand and Bins and apply second coat of plaster where needed on columns.

Materials needed:

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Date: 2.15.14
Supervisor: Mike Nelson
Crew:

Work Description: Apply Bins to cemented areas (on columns) + plastered areas. Apply 1st coat of plaster on cemented areas and 2nd coat on previously plastered areas on columns. Continue prepping remaining walls in room.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Sand previously plastered areas on columns (Bins + replaster where needed)
Begin reattaching peeled back canvas on columns

Materials needed:

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Date: 2.17.14
Supervisor: Mike Nelson
Crew:

Work Description: Sand previously plastered areas on columns + walls and replaster where necessary. Reattach peeled back canvas on columns (where plaster had to be patched)

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Continue sanding + plastering areas that had to be cemented.
Continue prep work on walls around the room.

Materials needed:

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San Francisco County, CA

Abbreviations
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Date: 2.18.14
Supervisor: Mike Nelson
Crew:

Work Description: Continue prep work on columns (sanding, priming + plastering)

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Continue work on columns

Materials needed:

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Date: 2.19.14
Supervisor: Mike Nelson
Crew:

Work Description: Continue prep work on columns + walls

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day:

Materials needed: Continue prep work on columns + walls

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Date: 2.20.14
Supervisor: Mike Nelson
Crew:

Work Description: Continue prep work on columns + walls (final skim coat where needed) Binz + begin replaceing canvas.
Did a test paint removal on end caps + rope on walls.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Finish replaceing canvas on walls Final sanding + begin work on ropes + endcaps

Materials needed:

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JCS: John Canning & Co,. Ltd
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Date: 2.21.14
Supervisor:
Crew:

Work Description: Continue final plaster patch on new canvas on columns. ~~Begin~~ (Sand + prime patches) begin working on ropes on walls + end caps.

Problems/Concerns: Gap between ceiling canvas and window frames above front door too large to caulk.

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Finish columns + caulk around windows.

Materials needed:

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JCS: John Canning & Co,. Ltd
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Date: 2.24.14
Supervisor: Mike Nelson
Crew:

Work Description: Finished final sanding on columns + caulked around windows (ceiling + down columns

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Talked w/ Dave this morning (discussed progress and concerns) said he would be here monday to do mock ups. (Told me two areas on walls + ceiling to make sure are ready for him to work on.

Projections for next day:
↳ spot prime any remaing areas in room that where plastered.
continue work on ropes on walls.

~~**Materials needed:**~~

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JCS: John Canning & Co,. Ltd
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Date: 2.25.14
Supervisor: Mike Nelson
Crew:

Work Description: Finish spot priming all areas that were patched on walls & ceiling.
Remove loose paint from ropes on walls

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Bill stopped in w/ Lacy, Lacy was intrested in aquireing new door for kitchen and matching original patterns & colors on original door

Projections for next day: continue working on ropes using paint stripper then prep w/ plaster and spot prime.

Materials needed:

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Abbreviations
JCS: John Canning & Co,. Ltd
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Date: 2.26.14
Supervisor: Mike Nelson
Crew:

Work Description: Continue prepping ropes + spot prime.
Prime areas for Dave to do mock-up.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Prime soffits + columns around windows + begin priming ceiling.

Materials needed:

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JCS: John Canning & Co,. Ltd
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Date: 2.27.14
Supervisor: Mike Nelson
Crew:

Work Description: Finish priming soffits & colums around windows and prime ceiling.

Problems/Concerns: While priming ceiling I encountered a few areas of canvas that where loose. I repasted them and plastered & primed them

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Contiue priming ceiling.

Materials needed:

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Date: 2.28.14
Supervisor: Mike Nelson
Crew:

Work Description: Continue priming ceiling.

Problems/Concerns: Todd stopped in and was concerned that rope was not stripped of all paint. I called Dave to give him a heads up on discussion. Dave called back and asked me to inform Todd that I had gotten ahead of shedule working on ropes (which I did) Todd thanked me for stopping by and I told him Dave would be in monday

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day:

Materials needed:

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Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.3.14
Supervisor: Dave, Mike.N. + Mike.D.
Crew:

Work Description: - Mike.D. & I primed walls and continued work on ropes. Mike.D & Dave began patching in large areas on ceiling w/New Canvas. Began prepping (removing loose paint from large doors going into veranda

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Todd stopped by and discussed replaceing door to kitchen to replicate original. Todd & Dave discussed progress w/striping rope down to bare rope.

Projections for next day: Dave is planning on doing mock-up.

Materials needed: Tape, Acetone, wood patch,

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NPS: National Park Services

Date: 3.4.14
Supervisor:
Crew: Dave, Mike.N + Mike.D.

Work Description: Continue prepping large doors into veranda. continue work on ropes on walls.
Mike.D. continued work on large patches of canvas on ceiling.
Dave did mock-up on wall near columns by window = put Peel Away paste on metal end caps of rope.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Renato stopped by to discuss replecatering door to kitchen

Projections for next day: Dave will continue w/mock-ups.
Mike.D. finish seeming canvas patches on ceiling and priming. Re-prime walls.

Materials needed:

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Date: 3.5.14
Supervisor:
Crew: Dave, Mike.N. + Mike.D.

Work Description: Mike.D. finished work on large ceiling patches. Dave continueing work on mock-ups. I continued preping large doors w/frame & leading to veranda. MikeD. and I began primeing walls + rope w/ Eggshell primer.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Dave met w/Parks people, Architect and conservators. They where very happy w/mock up and agreed that stripping paint of rope was not necessary.

Projections for next day: Finish primeing walls w/ eggshell primer.

Materials needed:

They where also happy w/rope color

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Date: 3:6:14 Dave;
Supervisor: Mike N & Mike.D.
Crew:

Work Description: Mike.D. + Mike.N, finished priming walls. Mike.D. put final plaster coat on large ceiling canvas's. I continued prepping large doors.
Dave mixed colors for raised panel doors, ceiling + large doors and window frames.

Problems/Concerns: Mike.D. removed Peel Away paste from Metal End caps of rope on wall

Special Assignments or Direction:

Meetings/Discussions: Dave, Mike and I had discussion about work plans + paint colors for ceiling + doors + window frames.

Projections for next day: Mike.D. finishing touches on ceiling patches. Mike.N. patch + sand areas around metal end caps + rope where removal was done.

Materials needed: ceiling paint + window + rope paint

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Date: 3.7.14
Supervisor:
Crew: Mike.N. + Mike.D.

Work Description: finished ceiling patches + primed them. De-taped + re-taped masked areas around wall lights + windows. Continued prep on large doors. Sanded + spackled areas around end caps + rope that was stripped for demo. Began painting

Problems/Concerns: rope on wall w/ rope color.

Special Assignments or Direction: Bill stoped by w/ women from P.B.S. Documentary (also Architect) she was very impressed w/ Mock-up. May return next week to film and asked that we not cover up exposure or mock-up till then.

Meetings/Discussions:

Projections for next day: P.U. mock-up paint for ceiling and do mock-up + continue prep on large doors to veranda + prime.

Materials needed: Paint for mock-ups. + rubber tubeing to patch large hole (gap) along front door where wall meets ceiling

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Date: 3.10.14
Supervisor:
Crew: Mike.N. + Mike.D.

Work Description: Patched large hole by front door where wall meets ceiling + skim coat w/plaster.
Prime large doors leading to veranda.
spot prime around metal endcaps at end of rope.
Final skim coat on large canvas ceiling patch.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: - Todd stopped by to look at ceiling color mock-up. (asked if we could do a patch of ~~on~~ top wall color of wall mock-up to get better idea of colors).
Mike wasn't happy w/paint color from Benjamin Moore for large front door + window frames (will take back and have it adjusted)
Todd wanted to know when Dave would be back to do final coat on walls because film crew wanted to tape that (He said he would E-mail Dave)

~~Projections for next day:~~

Materials needed:

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Date: 3/11/14
Supervisor: Mike.N. + Mike.D.
Crew:

Work Description: Did mock up of top color of wall against mock-up ceiling color for Todd.
Sand + prime large gap between ceiling + front door wall
Final patch + sand + spot prime large doors to vestibule.
Continue painting rope on walls.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Todd stopped in w/Robin to view ceiling color mock-up.

Projections for next day:

Materials needed:

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Date: 3.12.14
Supervisor: Mike.N + Mike.D.
Crew:

Work Description: Final prep on door to Kitchen + prime.
Continue painting rope on wall.
Begin Finish coat of paint on large doors to vestibule
Skim coat large patch of canvas on ceiling.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Architect stopped in w/assistant to view ceiling mock-up.

Projections for next day:

Materials needed:

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Date: 3.13.14
Supervisor: Mike.N. & Mike.D
Crew:

Work Description: Sand + prime large patch of canvas on ceiling. Continue ~~priming~~ finish coat on large doors leading to vestibule. Continue painting rope.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day:

Materials needed:

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Date: 3.14.14.
Supervisor: Mike N. & Mike D.
Crew:

Work Description: Finish painting rope on wall - touch up around rope on wall w/ wall primer.
Begin priming window frames on large windows around room.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Todd stopped by and said that ceiling mock-up had been approved. Also said we could throw out wood that had been removed from soffits around large windows.

Projections for next day:

Materials needed: Pick-up paint for ceiling.

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Date: 3.17.14
Supervisor: Mike N. + Mike D.
Crew:

Work Description: Continue priming window frames

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: finish priming window frames + begin finish coat on window frames.

Materials needed:

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Date: 3.18.14
Supervisor:
Crew: Mike.N. + Mike.D.

Work Description: Finish priming window frames. Continue finish coat on window frames.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Todd stopped by and said not to bother painting vertical metal strip on front door frame.

Projections for next day: Finish painting window frames. Begin finish coat on ceilings.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.19.14
Supervisor:
Crew: Mike N. + Mike D.

Work Description: Finish painting window frames. Begin painting finish coat on ceiling.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Continue w/ finish coat on ceilings

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.20.14
Supervisor: Mike N. + Mike D.
Crew:

Work Description: ~~continue~~ Finish finish coat on ceiling. Begin finish coat on door leading to kitchen Remove screens above vestibule doors. Cand cleaned slotted windows above vestibule doors.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Todd asked us to remove the screens above the vestibule doors.

Projections for next day: Paint horizontal lip that circles ceiling.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.21.14
Supervisor: Mike. N.
Crew:

Work Description: Paint horizontal edge that circles ceiling (w/wall finish color)
Sand and prime + finish coat spot on wall that was used for exposure test.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Only worked till 12:00

Projections for next day:

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.24.14
Supervisor: Mike.N., Mike.D., Dave
Crew:

Work Description: Dave, Mike.N. + Mike.D, put finish paint on soffit ceilings and began blending the 3 blues on the columns for the final wall finish paint.
Dave did some tests w/ the paint and did a sample mock-up in the morning.

Problems/Concerns:

Special Assignments or Direction: Terry and the film crew came by to tape various aspects of the job.

Meetings/Discussions:

Projections for next day: Continue w/ the final wall colors.

Materials needed: Linseed oil, 1" sash brush, paint strainers

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.25.14
Supervisor:
Crew: Mike.N., Mike.D., Dave

Work Description: Continued final wall finish color.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day:

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.26.14
Supervisor:
Crew: Mike.N., Mike.D., Dave.

Work Description: Put an over glaze on the walls to soften up the transition of colors. (+ exposure) Began patching + prepping mock-up on wall that was left for film crew to tape.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Dave went over details of remaining work on Job and left around 11:00.

Projections for next day: continue prepping mock-up area and prime walls to prepare for finish coat.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.27.2014
Supervisor: Mike. N. + Mike. D.
Crew:

Work Description: Continue work on columns with transition blues & colors.
Continue priming + finish coat on mock-up wall + prime exposure test wall before hanging canvas.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Hang large sheet of canvas on wall where exposure was done.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.28.2014
Supervisor: Mike.N. + Mike.D.
Crew:

Work Description: Hanging canvas on exposure test wall.
Paint horizontal spiral on ceiling w/ top of wall blue (#1)
Touch up rope on walls.
Finish columns w/ 3 color wall paint.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Terry and the camera crew came in to watch + tape the hanging of the canvas on exposure test wall

Projections for next day:

spot patch new canvas on exposure wall.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 3.31.2014
Supervisor: Mike.N. + Mike.D.
Crew:

Work Description:

spot patch newly canvased exposure test wall w/ joint compound.

Problems/Concerns:

Special Assignments or Direction: Mike.D. worked ½ day, till aprox. 1-1:30

Meetings/Discussions:

Projections for next day: sand newly canvassed area + prime.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.1.2014
Supervisor: Mike Nelson
Crew:

Work Description: Sand, prime, finish coat and decorative paint the newly canvassed exposure wall.
Touch up rope on wall.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day:

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.2.2014
Supervisor: Mike. N
Crew: Renato

Work Description:

Renato work on door prep.
Touch up rope.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Todd came in said he found some old slides w/ the door colors etc. He also said that we are providing the kick-plate for the new door.

Projections for next day:

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.3.14
Supervisor: Mike. N.
Crew: Renato

Work Description: Primed and put finish coat on column that Todd asked me to fix. Continue touching up rope + window frames + ~~Board~~ Vestibule door frame.
Renato continued work on door.

Problems/Concerns:

Special Assignments or Direction: Have to call scaffolding co. to arrange pick-up.

Meetings/Discussions: Todd did a walk through. Pointed out a few minor touch ups. Asked me to fix the face of one of the columns. (It was alligatoring - paint was seperating on column).

Projections for next day: Put decorative paints (3 blues) on column face redo.

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.4.14
Supervisor: Mike. N.
Crew: Renato + son

Work Description: Put decorative paint (3 blues) on face of column that was re-done.
Cleaned out garg box (started seperately ~~waste~~ materials to be shiped back/thrown out etc
Renato + son worked on door.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Bill came in and discussed stacking plywood on skids in hallway. He said someone was coming in to take a 360° panaramic picture for the web. ~~&~~ April 12th

Projections for next day:

Prime + paint new door + frame.
Final touch ups.

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.7.14
Supervisor:
Crew: Mike. N.

Work Description: Prime + finish coat frame around New door + back of new door.
Begin clean up + final touch ups.

Problems/Concerns:

Special Assignments or Direction: Todd asked me to carry colors from front of door ½ way around sides of door.

Meetings/Discussions: Scaffolding Co. removed scaffolding.

Projections for next day: Finish trim around sides of new door. Continue clean up + packing shipment of paints to go back to shop via Fed-ex

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.8.14
Supervisor:
Crew: Mike.N.

Work Description: Finish color bands around sides of door per Todds request.
Clean up work area. Prepare Fed-Ex. shipment.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions:

Projections for next day: Remove Plywood + Final clean-up

Materials needed:

JOHN CANNING & CO LTD
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Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.9.14
Supervisor:
Crew: Mike.N.

Work Description: Remove plywood + cardboard and stack on skids. Remove plastic + dispose of in dumpster. Final touch ups

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Dane Johnson from N.P.S. stopped by and was very happy w/ the room.
Had Final walk through w/ Todd and Bill. (Both were very happy w/ room)

Projections for next day: sweep + clean around floor base.

Materials needed:

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

Job Site Daily Log

San Francisco Maritime National Historical Park
Bay View Room Mural and Ceiling Restoration
Project #P13PC00340, Pkg# SAFR-165462
San Francisco County, CA

Abbreviations
JCS: John Canning & Co,. Ltd
NPS: National Park Services

Date: 4.10.14
Supervisor: Mike Nelson
Crew:

Work Description: Final clean-up. Send Feb-ex shipment. Turn over paints + extra painting material to Todd Empty garbage.

Problems/Concerns:

Special Assignments or Direction:

Meetings/Discussions: Job Complete

Projections for next day:

Materials needed:

DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT:
Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	March 24, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS *(Dry, Damp, Wet, Frozen)*
Clear, sunny			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
2 – technicians - plaster, canvas, paint	0

EQUIPMENT ON JOB Brief description of size	No. Units	Working Yes	Working No
Scaffolding	2	X	
Lock Box	1	X	

MATERIALS DELIVERED
paint supplies

OFFICIAL VISITORS TO JOB SITE

STATUS OF WORK

ITEM No. Brief description of work in progress, questionable performance, etc. Include tests made and samples taken.
(Use comments section on reverse for other information, if necessary)

Canvas repair on ceiling and walls mostly complete. Painting of primer on all surfaces complete. Full mock-up/test on side of pilaster in process. Full painting of door in process – paint out of remaining colors completed during site visit to facilitate review of color scheme.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

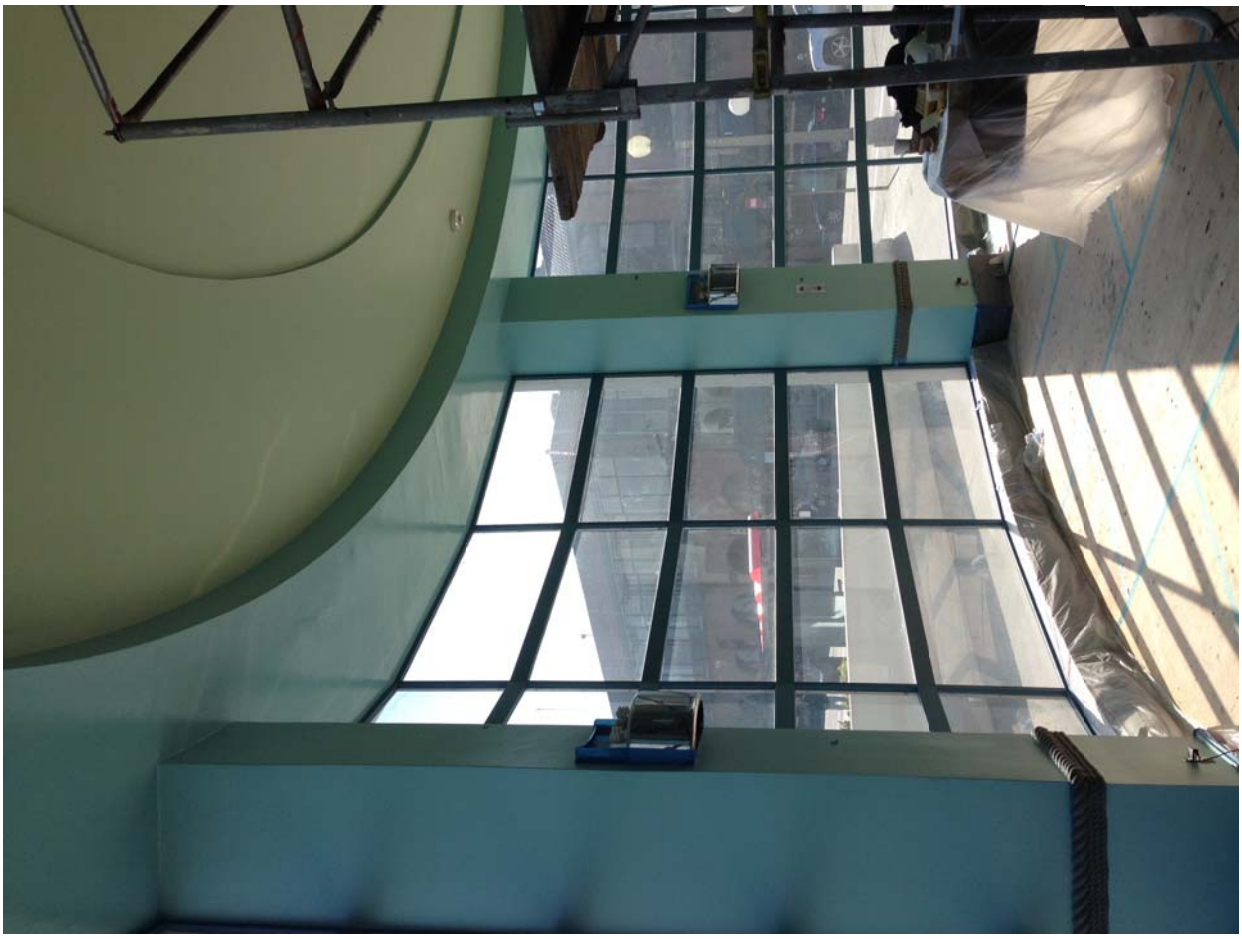
n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

Photos attached below.









DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT: Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	March 26, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS (*Dry, Damp, Wet, Frozen*)
Clear, sunny			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
3 – conservator & technicians - plaster, canvas, paint	0

EQUIPMENT ON JOB (Brief description of size)	No. Units	Working: Yes	Working: No
Scaffolding	2	X	
Lock Box	1	X	

MATERIALS DELIVERED
paint supplies

OFFICIAL VISITORS TO JOB SITE

STATUS OF WORK

ITEM No. — Brief description of work in progress, questionable performance, etc. Include tests made and samples taken. *(Use comments section on reverse for other information, if necessary)*

Canvas repair on ceiling and walls mostly complete. Painting of gradated color scheme on main wall in process and first pass completed. Team felt first pass showed too much distinction between the three color bands – contractor will continue to feather the overlap between the color bands tomorrow.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

Photos attached below.





DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT:
Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	March 28, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS (*Dry, Damp, Wet, Frozen*)
Clear, partly cloudy			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
3 – conservator & technicians - plaster, canvas, paint	0

EQUIPMENT ON JOB (Brief description of size)	No. Units	Working: Yes	Working: No
Scaffolding	2	X	
Lock Box	1	X	

MATERIALS DELIVERED
paint supplies

OFFICIAL VISITORS TO JOB SITE
2 members of film crew for production of TV program
"Ultimate Restorations"

STATUS OF WORK

ITEM No. — Brief description of work in progress, questionable performance, etc. Include tests made and samples taken. *(Use comments section on reverse for other information, if necessary)*

Canvas repair on ceiling and walls mostly complete. Color bands on wall have been feathered to satisfaction of the team. Canvas repair conducted to side of column pilaster that was used for exploratory paint removal. Filming of process by film crew.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

Photos attached below.





DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT: Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	April 3, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS (*Dry, Damp, Wet, Frozen*)
Clear, sunny			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
3 – technicians - plaster, canvas, paint, door	0

EQUIPMENT ON JOB (Brief description of size)	No. Units	Working: Yes	Working: No
Scaffolding	2	X	
Lock Box	1	X	

MATERIALS DELIVERED
paint supplies
OFFICIAL VISITORS TO JOB SITE

STATUS OF WORK

ITEM No. — Brief description of work in progress, questionable performance, etc. Include tests made and samples taken. *(Use comments section on reverse for other information, if necessary)*

Canvas repair on ceiling, walls and misc. areas completed. Installation of new door in process. Walk-through with contractor to create Punch List – list provided at the end of this report.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

PUNCH LIST ITEMS

1. On the two doors to the kitchen, continue the paint to the center line of the edge of the doors.
2. Various touch-up at doors and window frames - correct overpaint and/or holidays
3. Fill and paint where chrome surrounds rope at window frames
4. Re-paint one column face that has excessive alligatoring

DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT: Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	April 4, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS (*Dry, Damp, Wet, Frozen*)
Clear, sunny			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
3 – technicians - plaster, canvas, paint, door	0

EQUIPMENT ON JOB (Brief description of size)	No. Units	Working: Yes	Working: No
Scaffolding	2	X	
Lock Box	1	X	

MATERIALS DELIVERED

paint supplies

OFFICIAL VISITORS TO JOB SITE

STATUS OF WORK

ITEM No. — Brief description of work in progress, questionable performance, etc. Include tests made and samples taken. *(Use comments section on reverse for other information, if necessary)*

Installation of new door in process. Touch-up work and Punch List items in process.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

Photos attached below.



DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT:
Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	April 8, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS (*Dry, Damp, Wet, Frozen*)
Clear, sunny			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
1 – technician - plaster, canvas, paint,	0

EQUIPMENT ON JOB Brief description of size	No. Units	Working Yes	Working No	MATERIALS DELIVERED
Scaffolding	0			paint supplies
Lock Box	1	X		
				OFFICIAL VISITORS TO JOB SITE

STATUS OF WORK

ITEM No. Brief description of work in progress, questionable performance, etc. Include tests made and samples taken.
(Use comments section on reverse for other information, if necessary)

Walk-through with contractor to review Punch List process – updated list provided at the end of this report.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

PUNCH LIST ITEMS

1. There was also one electric outlet cover plate missing that Mike was attempting to locate.
2. Once the plywood is removed, we'll need to check for any required clean-up at the base of the walls.

DAILY LOG OF CONSTRUCTION

M T W Th F

PMIS. No.: SAFR-165462

PROJECT:
Bay View Room Mural and Ceiling Restoration

PARK	CONTRACT NO.	DATE
SAFR	P13PC00340	April 10, 2014

CONTRACTOR	CONTRACTOR REPRESENTATIVE ON JOB
John Canning & Company, Inc.	David Riccio

WEATHER (*Rain, Snow, Cloudy, Windy, etc.*)	TEMP. High	TEMP. Low	GROUND CONDITIONS (*Dry, Damp, Wet, Frozen*)
Clear, sunny			n/a

NO. CONTRACTOR'S MEN BY JOB CATEGORIES	NO. SUBCONTRACTOR'S MEN BY JOB CATEGORIES
1 – technician - plaster, canvas, paint,	0

EQUIPMENT ON JOB Brief description of size	No. Units	Working Yes	Working No
	0		
Lock Box	0		

MATERIALS DELIVERED

OFFICIAL VISITORS TO JOB SITE

STATUS OF WORK

ITEM No. Brief description of work in progress, questionable performance, etc. Include tests made and samples taken.
(Use comments section on reverse for other information, if necessary)

Walk-through with contractor for final review and acceptance of work. Punch list items complete, all work complete and contractor materials have been removed from room.

SIGNATURE	TITLE:
Todd Bloch	Historical Architect/COR

CRITICAL POINT/MILESTONE INSPECTIONS (*Describe item inspected, observations, problems, action items)*

n/a

STATUS of GOVERNMENT FURNISHED SERVICES AND/OR SUPPLIES

1 (one) SAFR scaffold remains in room.

SAFETY COMMENTS

n/a

DIFFICULTIES WITH CONTRACTOR OR REPRESENTATIVE

n/a

UNFORESEEN DEVELOPMENTS *(Describe conditions, action taken; person contacted, recommended actions)*

n/a

OTHER COMMENTS OR PERTINENT FACTS REGARDING JOB

Photos attached.







APPENDIX F:

Project Photographs

Photography Log
Project Photographs

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS
150 Commerce Court | Cheshire CT | 06410
www.canning-studios.com | 203-272-9868

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PAINTING • PLASTERING • CONSERVATION STUDIOS

San Francisco Maritime National Historical Park, San Francisco County CA
Contract No. P13PC00340, Bay View Mural and Ceiling Restoration, Pkg. # SAFR-165462

PHOTO #.jpg	DESCRIPTION
1-00.jpg	Before Treatment - Overall, South Elevation
1-01.jpg	Before Treatment - Overall, South Elevation
1-02.jpg	Before Treatment - Overall, South Elevation
1-03.jpg	Before Treatment - Overall, Ornamental Door
1-04.jpg	Before Treatment - Overall, North Elevation
1-05.jpg	Before Treatment - Overall, North Elevation
1-06.jpg	Before Treatment - Overall, South Elevation

2-00.jpg	During Treatment - Damaged Canvas, Ceiling
2-01.jpg	During Treatment - Damaged Canvas, Ceiling
2-02.jpg	During Treatment - Damaged Canvas, Ceiling
2-03.jpg	During Treatment - Damaged Canvas, Ceiling
2-04.jpg	During Treatment - Damaged Canvas, Ceiling
2-05.jpg	During Treatment - Damaged Canvas, Ceiling
2-06.jpg	During Treatment - Damaged Canvas, Ceiling
2-07.jpg	During Treatment - Damaged Canvas, Ceiling
2-08.jpg	During Treatment - Damaged Canvas, Ceiling
2-09.jpg	During Treatment - Damaged Canvas, Ceiling
2-10.jpg	During Treatment - Damaged Canvas, Ceiling
2-11.jpg	During Treatment - Damaged Canvas, Ceiling
2-12.jpg	During Treatment - Damaged Canvas, Ceiling
2-13.jpg	During Treatment - Damaged Canvas, Ceiling & Wall
2-14.jpg	During Treatment - Damaged Canvas, Ceiling & Wall
2-15.jpg	During Treatment - Damaged Canvas, Ceiling & Wall
2-16.jpg	During Treatment - Damaged Canvas, Ceiling

3-00.jpg	During Treatment - Plaster Repair, Ceiling Before
3-01.jpg	During Treatment - Plaster Repair, Ceiling After
3-02.jpg	During Treatment - Plaster Repair, Ceiling
3-03.jpg	During Treatment - Plaster Repair, Ceiling
3-04.jpg	During Treatment - Plaster Repair, Ceiling
3-05.jpg	During Treatment - Plaster Repair, Ceiling
3-06.jpg	During Treatment - Plaster Repair, Ceiling
3-07.jpg	During Treatment - Plaster Repair, Ceiling
3-08.jpg	During Treatment - Plaster Repair, Ceiling
3-09.jpg	During Treatment - Plaster Repair, Wall

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PHOTO #	DESCRIPTION
3-10.jpg	During Treatment - Plaster Repair, Wall
3-11.jpg	During Treatment - Plaster Repair, Wall
3-12.jpg	During Treatment - Plaster Repair, Wall
3-13.jpg	During Treatment - Plaster Repair, Wall
3-14.jpg	During Treatment - Plaster Repair, Wall
3-15.jpg	During Treatment - Plaster Repair, Ceiling

4-00.jpg	During Treatment - Reattaching Canvas
4-01.jpg	During Treatment - Reattaching Canvas
4-02.jpg	During Treatment - Reattaching Canvas
4-03.jpg	During Treatment - Reattaching Canvas
4-04.jpg	During Treatment - Reattaching Canvas
4-05.jpg	During Treatment - Peeling Canvas
4-06.jpg	During Treatment - Reattaching Canvas
4-07.jpg	During Treatment - Peeling Canvas
4-08.jpg	During Treatment - Reattaching Canvas
4-09.jpg	During Treatment - Peeling Canvas
4-10.jpg	During Treatment - Reattaching Canvas
4-11.jpg	During Treatment - Reattaching Canvas
4-12.jpg	During Treatment - Peeling Canvas
4-13.jpg	During Treatment - Peeling Canvas
4-14.jpg	During Treatment - Reattaching Canvas
4-15.jpg	During Treatment - Peeling Canvas
4-16.jpg	During Treatment - Peeling Canvas
4-17.jpg	During Treatment - Peeling Canvas
4-18.jpg	During Treatment - Reattaching Canvas

5-00.jpg	During Treatment - Application of New Canvas
5-01.jpg	During Treatment - Application of New Canvas
5-02.jpg	During Treatment - Application of New Canvas
5-03.jpg	During Treatment - Application of New Canvas
5-04.jpg	During Treatment - Application of New Canvas
5-05.jpg	During Treatment - Application of New Canvas
5-06.jpg	During Treatment - Application of New Canvas
5-07.jpg	During Treatment - Application of New Canvas
5-08.jpg	During Treatment - New Canvas

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5-09.jpg	During Treatment - New Canvas
5-10.jpg	During Treatment - New Canvas
5-11.jpg	During Treatment - New Canvas
5-12.jpg	During Treatment - New Canvas
5-13.jpg	During Treatment - New Canvas
5-14.jpg	During Treatment - New Canvas
5-15.jpg	During Treatment - New Canvas
5-16.jpg	During Treatment - New Canvas

6-00.jpg	During Treatment - Application of Base Paint
6-01.jpg	During Treatment - Application of Base Paint
6-02.jpg	During Treatment - Base Paint on Walls and Ceiling, Overall
6-03.jpg	During Treatment - Application of Base Paint
6-04.jpg	During Treatment - Application of Base Paint
6-05.jpg	During Treatment - Application of Base Paint
6-06.jpg	During Treatment - Base Paint on Walls and Ceiling, Overall

6a-00.jpg	During Treatment - Glaze Mockup
6a-01.jpg	During Treatment - Glaze Mockup
6a-02.jpg	During Treatment - Glaze Mockup
6a-03.jpg	During Treatment - Glaze Mockup
6a-04.jpg	During Treatment - Glaze Mockup
6a-05.jpg	During Treatment - Glaze Mockup
6a-06.jpg	During Treatment - Glaze Mockup Completed
6a-07.jpg	During Treatment - Glaze Mockup Completed
6a-08.jpg	During Treatment - Glaze Mockup Completed

6b-00.jpg	During Treatment - Application of Glaze
6b-01.jpg	During Treatment - Application of Glaze
6b-02.jpg	During Treatment - Application of Glaze

7-00.jpg	During Treatment - Sand and Strip Doorframe
7-01.jpg	During Treatment - Prepped Doorframe

8-00.jpg	During Treatment - Painted Doorframe, North Elevation
8-01.jpg	During Treatment - Application of Paint to Window Frame

8-02.jpg	During Treatment - Painted Doorframe, North Elevation
8-03.jpg	During Treatment - Painted Doorframe, North Elevation

9-00.jpg	Before Treatment - Ornamental Door, South Elevation
9-01.jpg	Before Treatment - Ornamental Door, South Elevation
9-02.jpg	Before Treatment - Ornamental Door, Paint Strip
9-03.jpg	Before Treatment - Ornamental Door, South Elevation
9-04.jpg	Before Treatment - Ornamental Door, South Elevation
9-05.jpg	Before Treatment - Ornamental Door Detail, South Elevation
9-06.jpg	Before Treatment - Ornamental Door, South Elevation

10-00.jpg	During Treatment - Ornamental Door, Base Paint
10-01.jpg	During Treatment - Ornamental Door, Multiple Colors
10-02.jpg	During Treatment - Ornamental Door, Base Paint
10-03.jpg	During Treatment - Ornamental Door, Door Trim
10-04.jpg	During Treatment - Ornamental Door, Multiple Colors
10-05.jpg	During Treatment - Ornamental Door, Base Paint

11-00.jpg	After Treatment - Removal of Protection
11-01.jpg	After Treatment - Removal of Protection
11-02.jpg	After Treatment - Removal of Protection
11-03.jpg	After Treatment - Removal of Protection
11-04.jpg	After Treatment - Removal of Protection
11-05.jpg	After Treatment - Removal of Protection

12-00.jpg	Before Treatment, Rope Molding with Exposure
12-01.jpg	Before Treatment, Rope Molding
12-02.jpg	Before Treatment, Rope Molding
12-03.jpg	Before Treatment, Rope Molding
12-04.jpg	Before Treatment, Rope Molding
12-05.jpg	Before Treatment, Rope Molding
12-06.jpg	Before Treatment, Rope Molding
12-07.jpg	Before Treatment, Rope Molding
12-08.jpg	Before Treatment, Rope Molding
12-09.jpg	Before Treatment, Rope Modling next to Exposure
12-10.jpg	Before Treatment, Rope Modling next to Exposure

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13-00.jpg	During Treatment, Stripped Rope Molding
13-01.jpg	During Treatment, Stripped Rope Molding
13-02.jpg	During Treatment, Stripping of Rope Molding

14-00.jpg	During Treatment - Painted Rope Molding
14-01.jpg	During Treatment - Painting Rope Molding
14-02.jpg	During Treatment - Painted Rope Molding
14-03.jpg	During Treatment - Painted Rope Molding
14-04.jpg	During Treatment - Painting Rope Molding

15-00.jpg	Completion Photo - Ornamental Doors
15-01.jpg	Completion Photo - Ornamental Door
15-02.jpg	Completion Photo - Rope Detail
15-03.jpg	Completion Photo - Ornamental Door
15-04.jpg	Completion Photo - Rope Detail
15-05.jpg	Completion Photo - Door Trim
15-06.jpg	Completion Photo - Door Trim
15-07.jpg	Completion Photo - Interior Door
15-08.jpg	Completion Photo - Door Trim
15-09.jpg	Completion Photo - Interior Door
15-10.jpg	Completion Photo - South Elevation
15-11.jpg	Completion Photo - South Elevation
15-12.jpg	Completion Photo - North Elevation
15-13.jpg	Completion Photo - North Elevation
15-14.jpg	Completion Photo - North Elevation
15-15.jpg	Completion Photo - North Elevation
15-16.jpg	Completion Photo - North Elevation
15-17.jpg	Completion Photo - Overall
15-18.jpg	Completion Photo - Detail
15-19.jpg	Completion Photo - North Elevation
15-20.jpg	Completion Photo - Ceiling
15-21.jpg	Completion Photo - Ceiling
15-22.jpg	Completion Photo - Ceiling
15-23.jpg	Completion Photo - Ceiling
15-24.jpg	Completion Photo - Glass Detail
15-25.jpg	Completion Photo - North Elevation
15-26.jpg	Completion Photo - Window V

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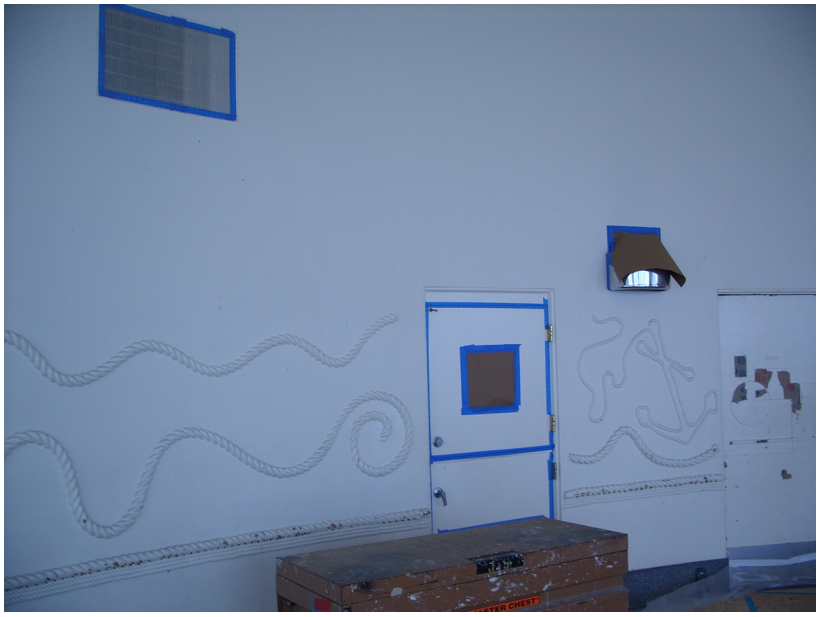
15-27.jpg	Completion Photo - Ceiling
15-28.jpg	Completion Photo - Detail
15-29.jpg	Completion Photo - Rope Molding
15-30.jpg	Completion Photo - Overall
15-31.jpg	Completion Photo - Overall
15-32.jpg	Completion Photo - Overall
15-33.jpg	Completion Photo - South Elevation
15-34.jpg	Completion Photo - South Elevation
15-35.jpg	Completion Photo - Rope Molding
15-36.jpg	Completion Photo - Outlet
15-37.jpg	Completion Photo - Glass Detail
15-38.jpg	Completion Photo - Glass Detail
15-39.jpg	Completion Photo - South Elevation
15-40.jpg	Completion Photo - Detail
15-41.jpg	Completion Photo - Detail
15-42.jpg	Completion Photo - North Elevation
15-43.jpg	Completion Photo - North Elevation
15-44.jpg	Completion Photo - Rope Molding
15-45.jpg	Completion Photo - Rope Molding



1-00.JPG



1-01.JPG



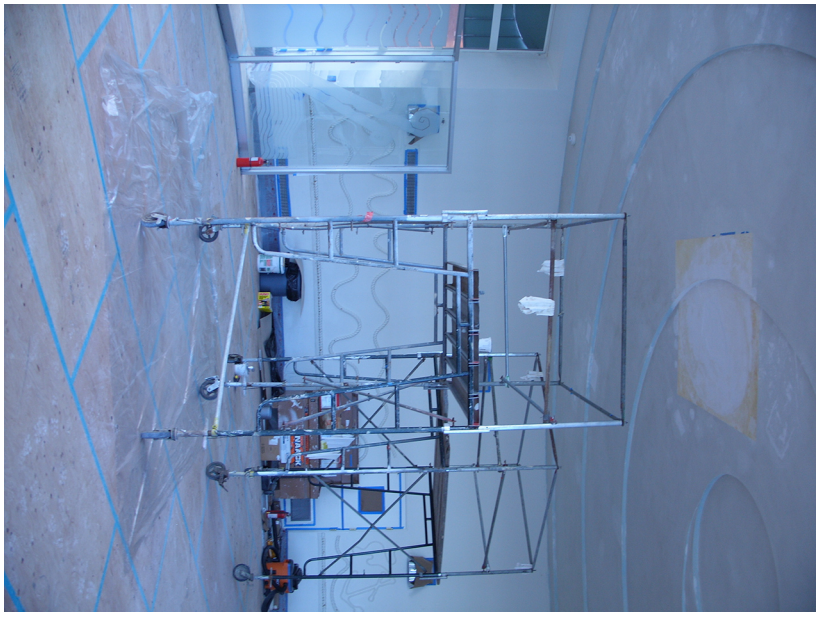
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1-03.JPG



1-04.JPG



1-05.JPG



2-00.jpg



2-01.jpg



2-02.jpg



2-03.jpg



2-04.JPG



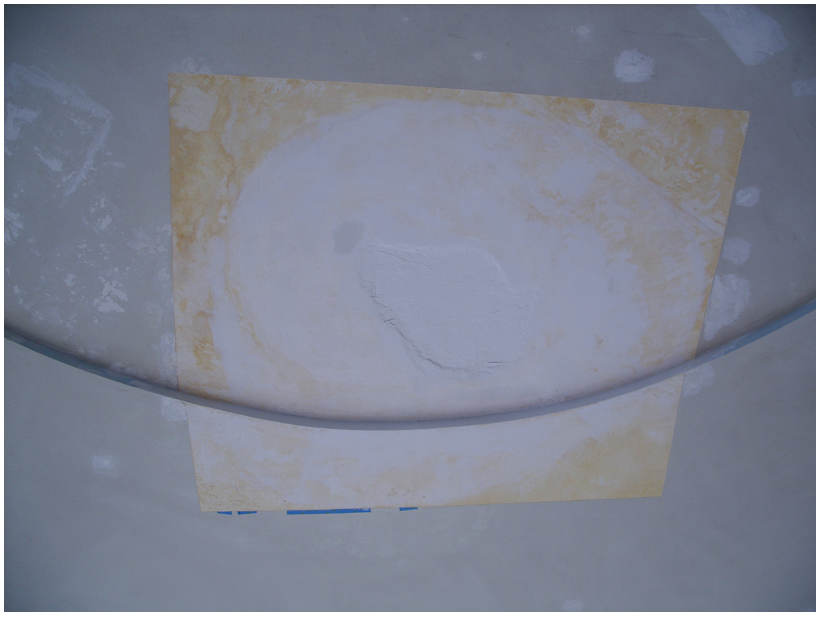
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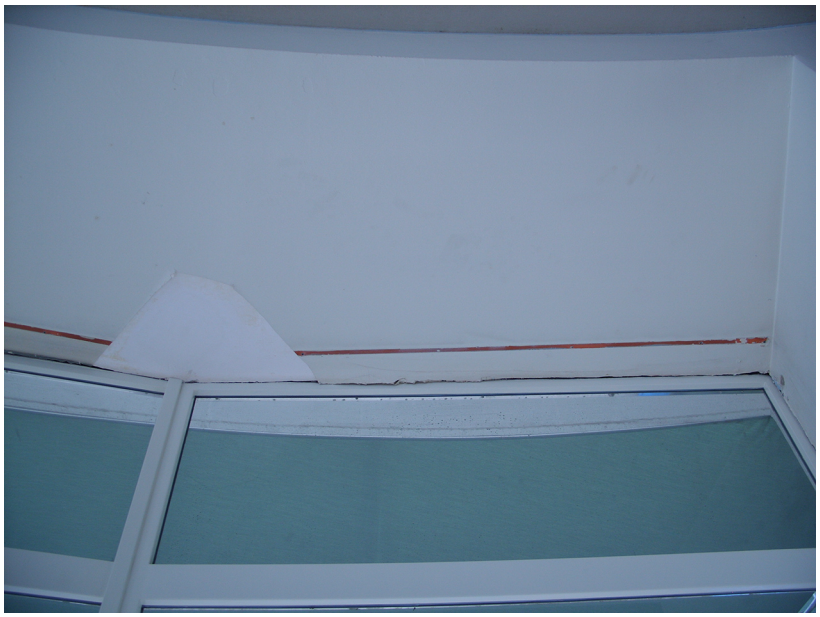
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2-08.JPG



2-09.JPG



2-10.JPG



2-11.JPG



2-12.JPG



2-13.JPG



2-14.JPG



2-15.JPG



2-16.JPG



3-00.JPG



3-01.JPG



3-02.JPG



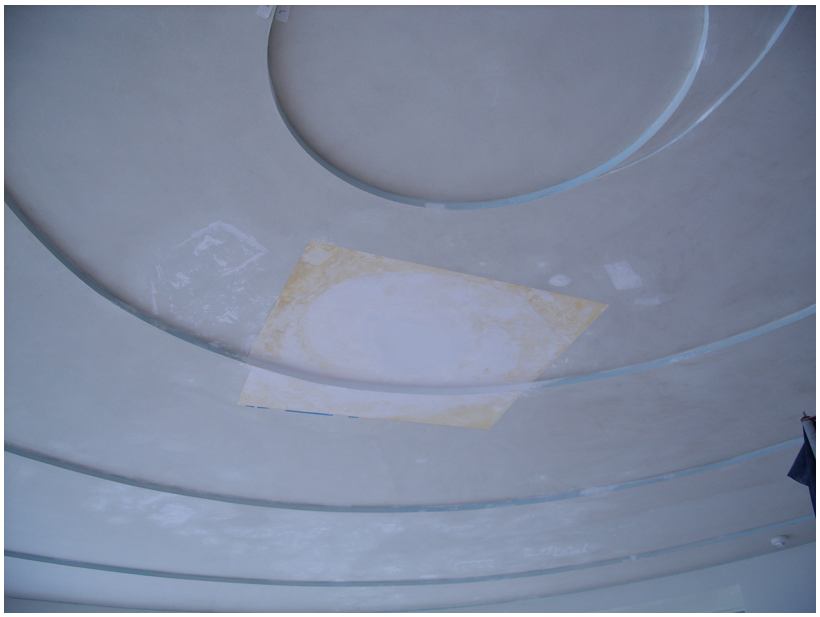
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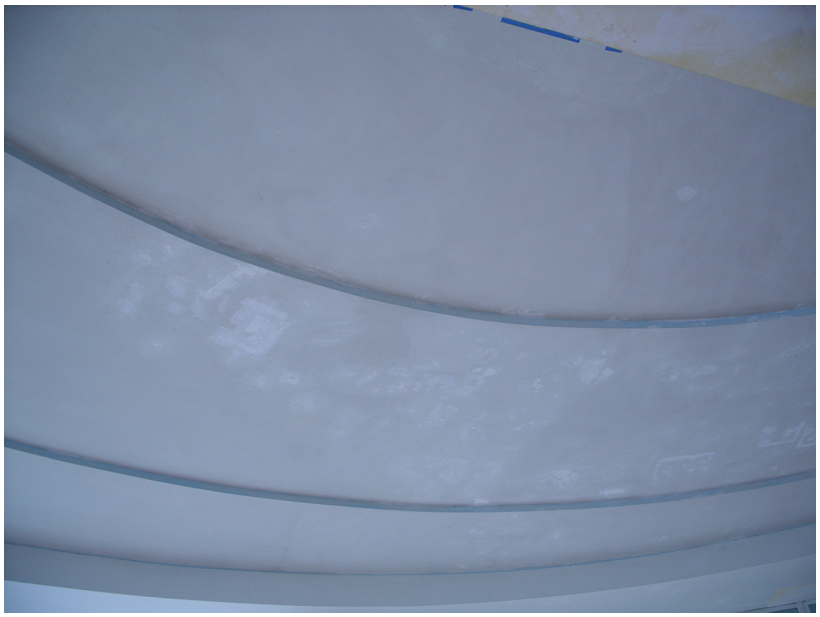
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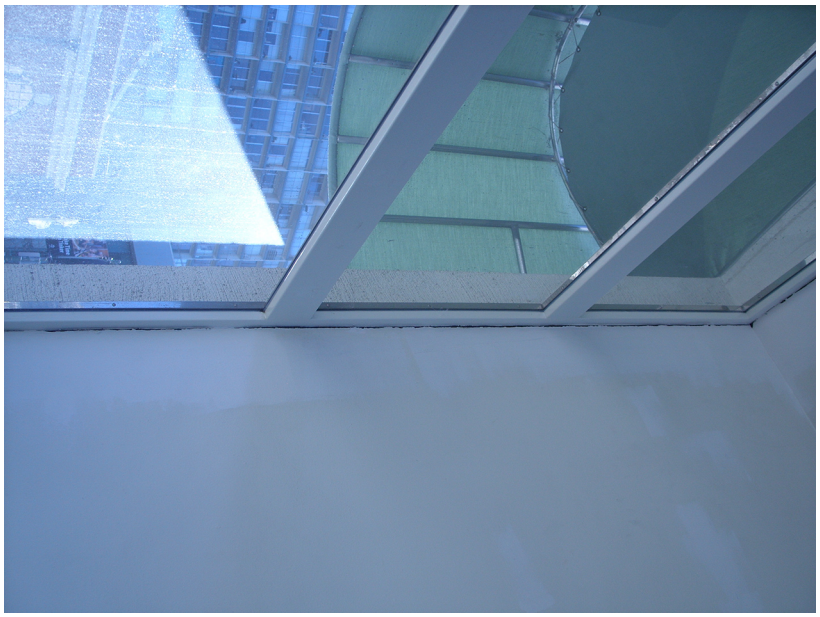
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3-12.JPG



3-13.JPG



3-14.JPG



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4-02.JPG



4-03.JPG



4-04.JPG



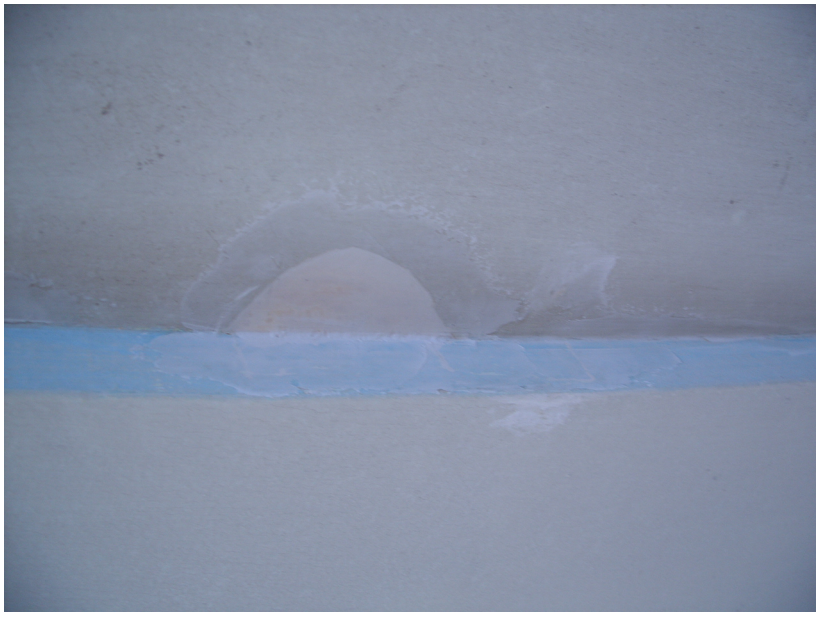
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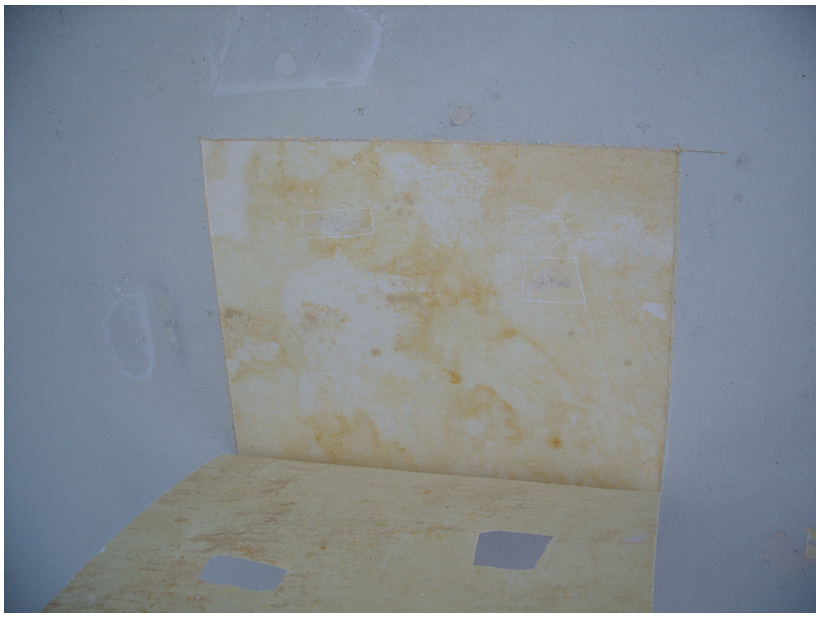
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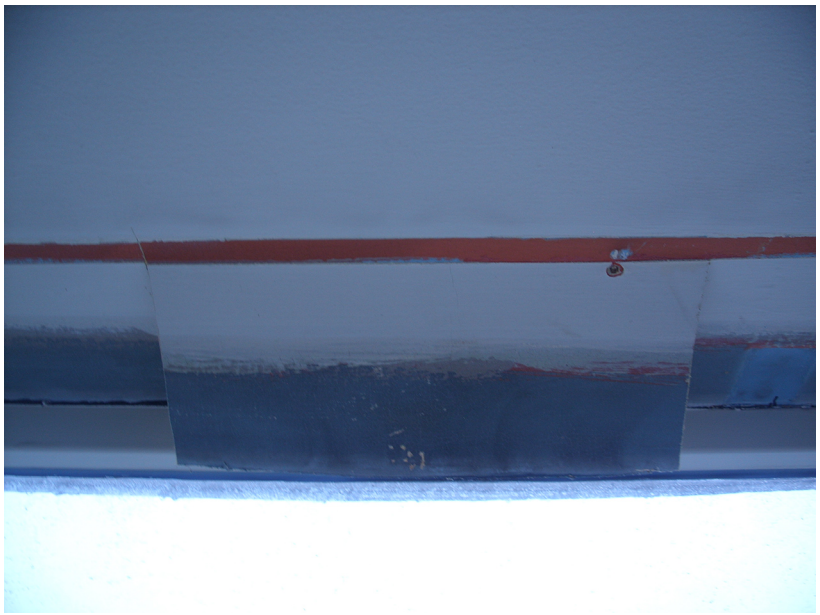
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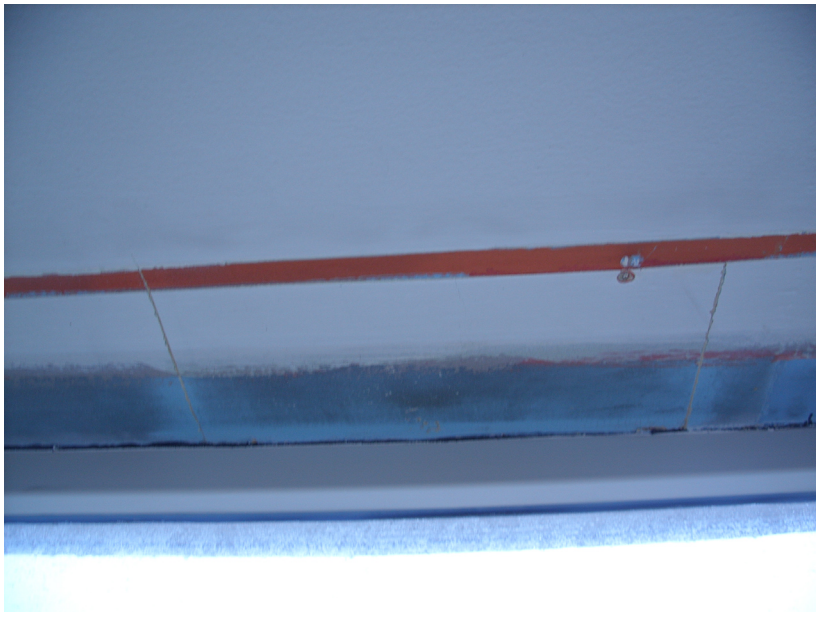
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4-14.JPG



4-15.JPG



4-16.JPG



4-17.JPG



4-18.JPG



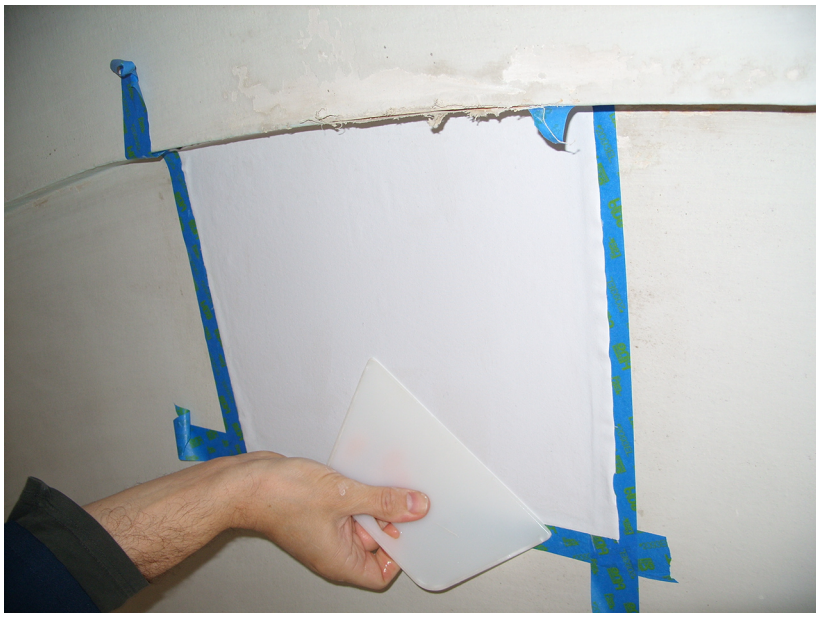
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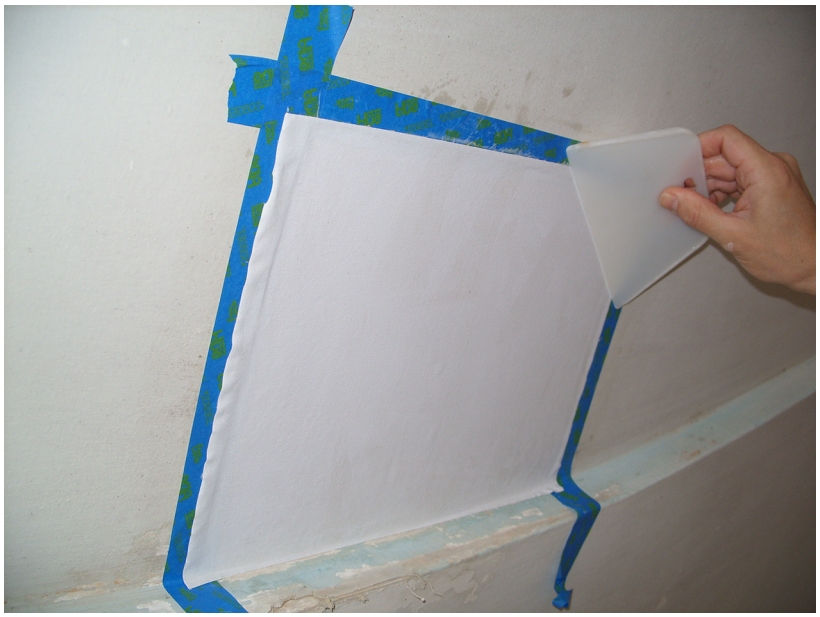
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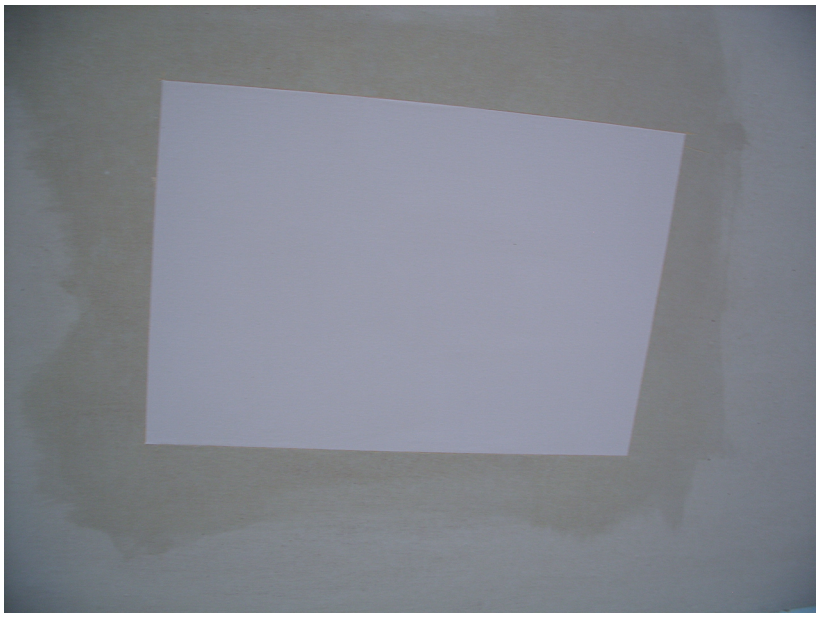
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5-11.JPG



5-12.JPG



5-13.JPG



5-14.JPG



5-15.JPG



5-16.JPG



6-00.JPG



6-01.JPG



6-02.JPG



6-03.JPG



6-04.JPG



6-05.JPG



6-06.JPG



6a-00.JPG



6a-01.JPG



6a-02.JPG



6a-03.JPG



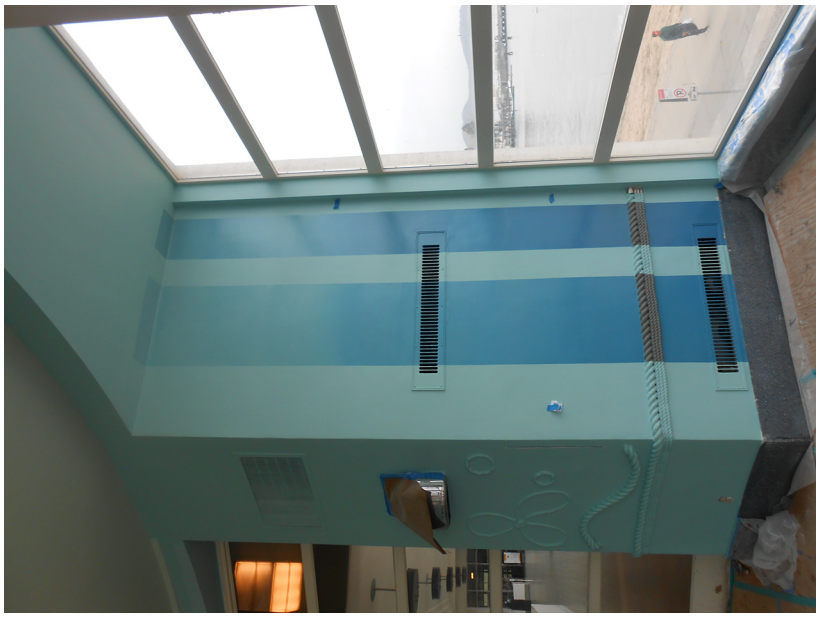
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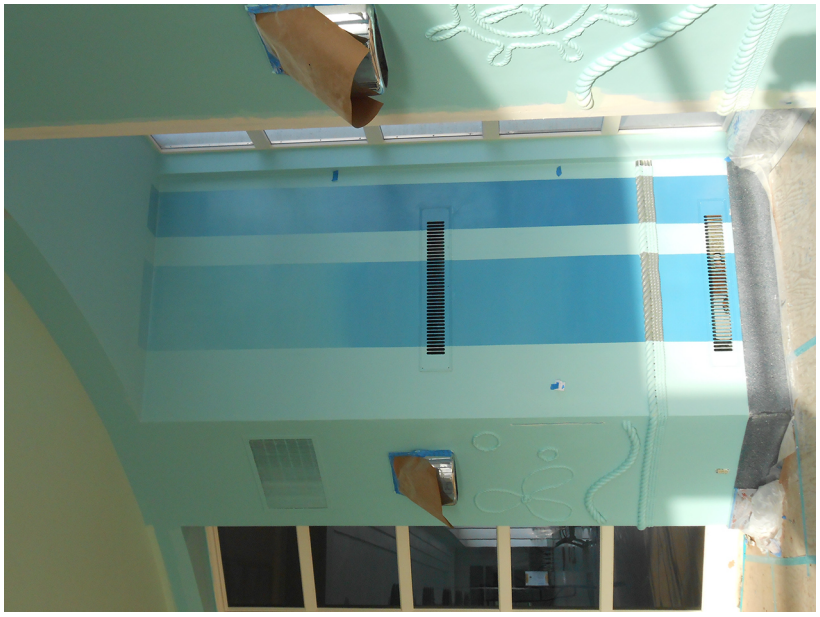
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6a-06.JPG



6a-07.JPG



6a-08.JPG



6b-00.JPG



6b-01.JPG



6b-02.JPG



7-00.JPG



7-01.JPG



8-00.JPG



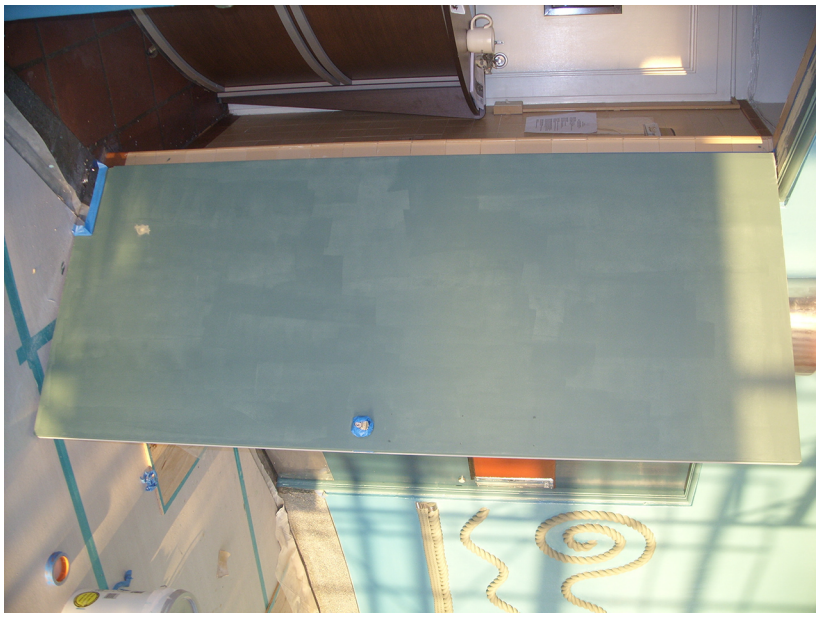
8-01.JPG



8-02.JPG



8-03.JPG



9-00.JPG



9-01.JPG



9-02.JPG



9-03.jpg



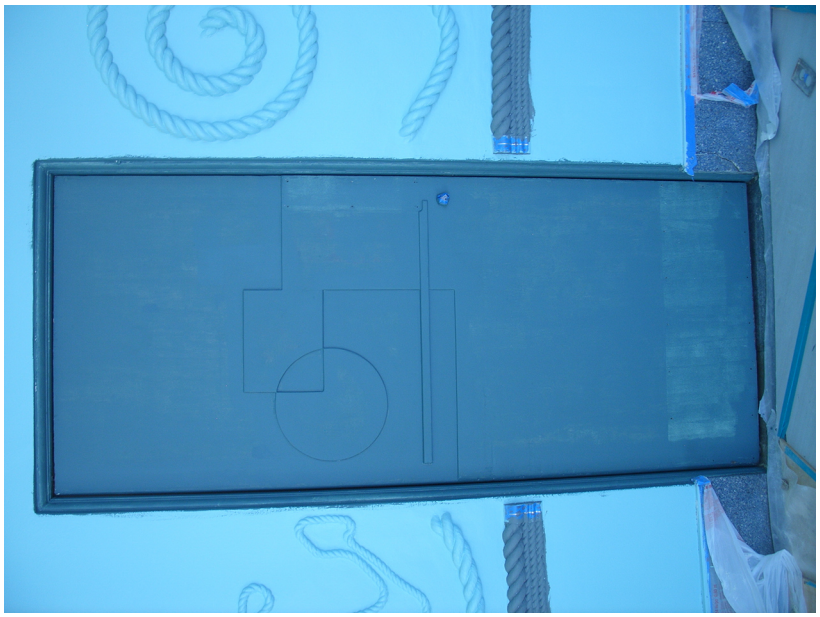
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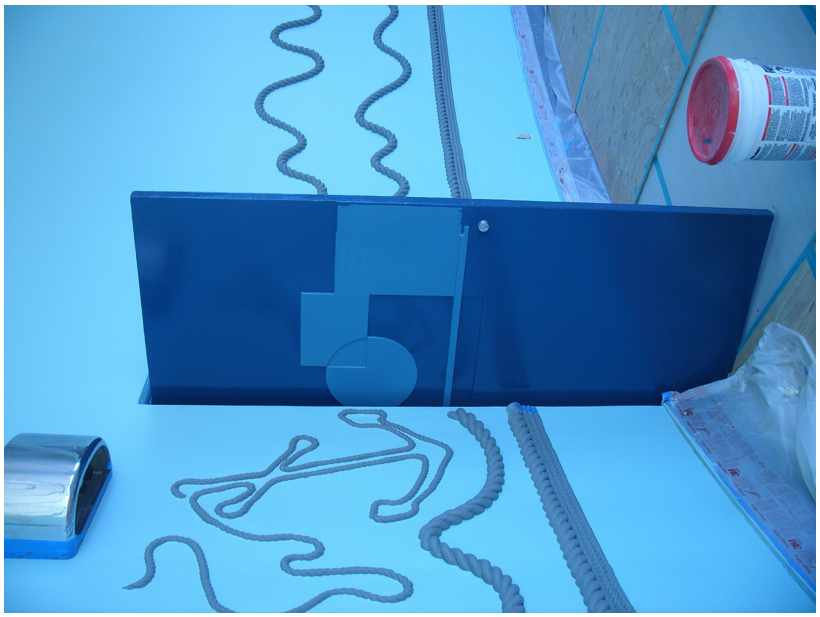
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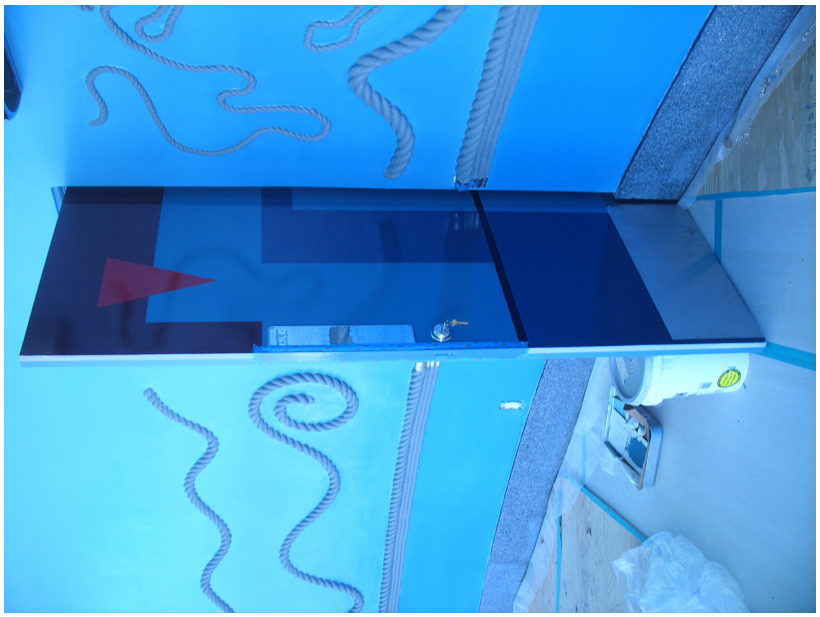
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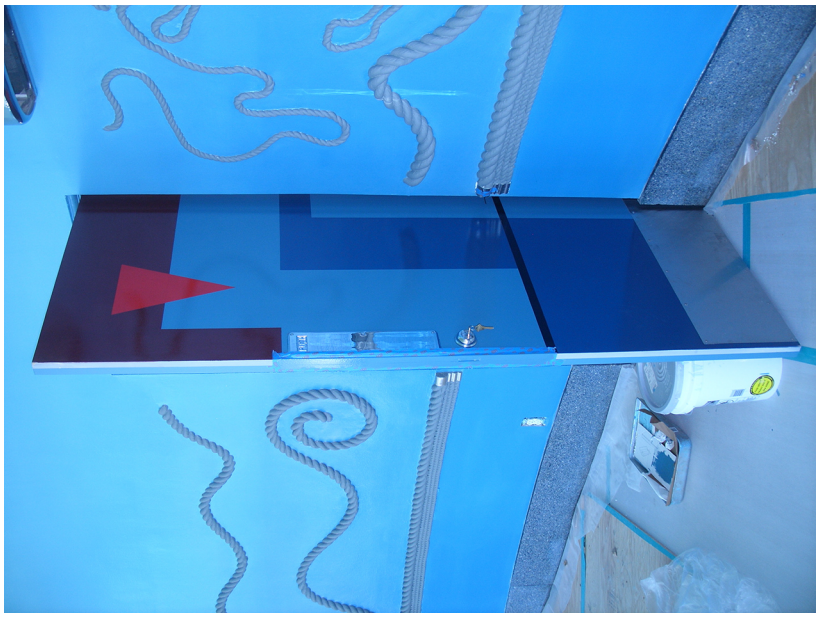
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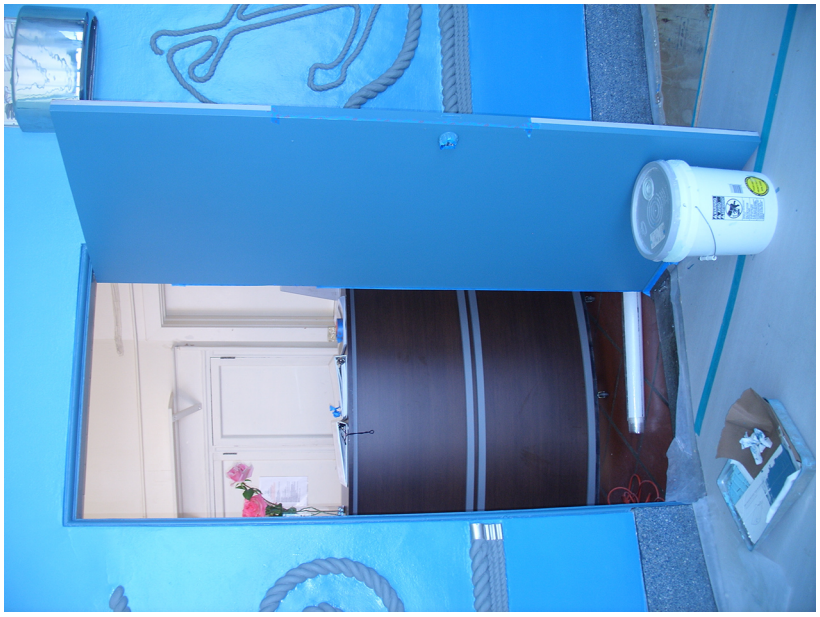
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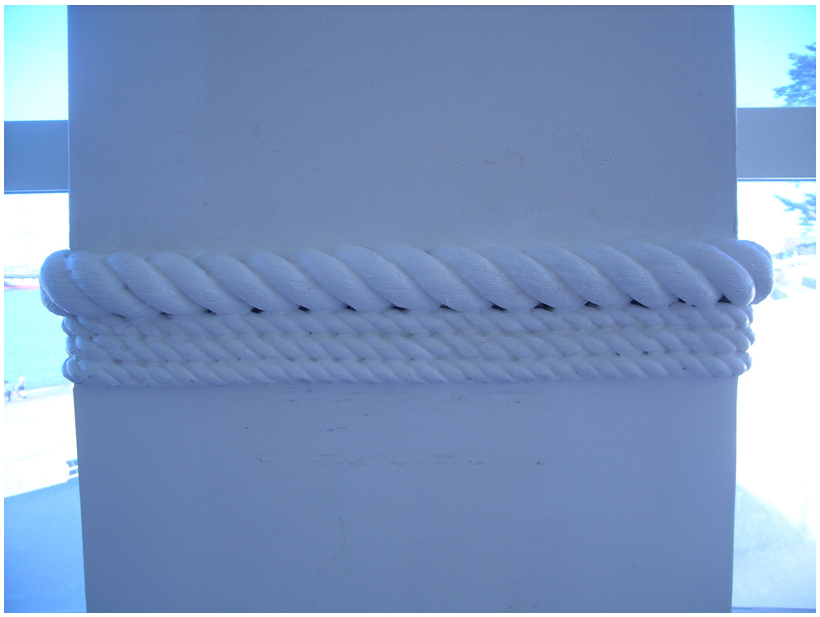
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12-05.JPG



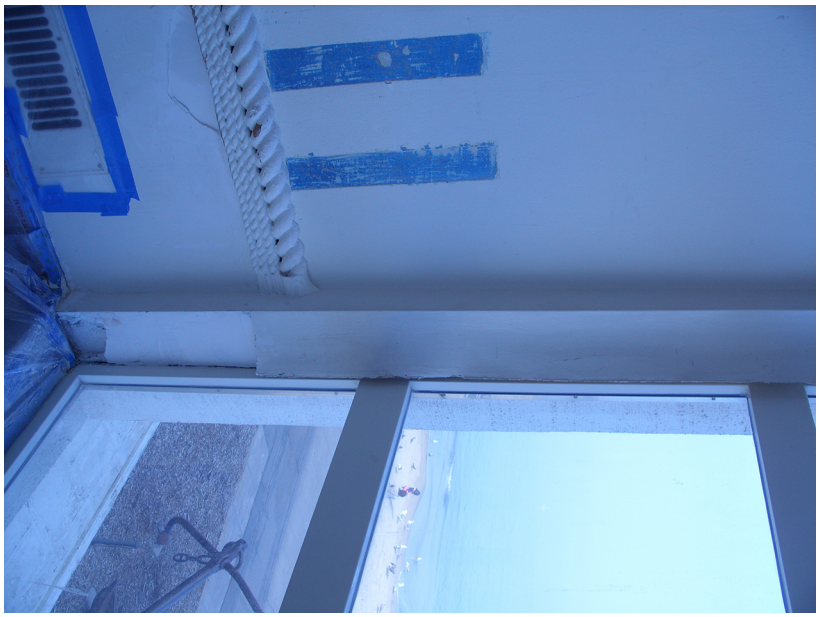
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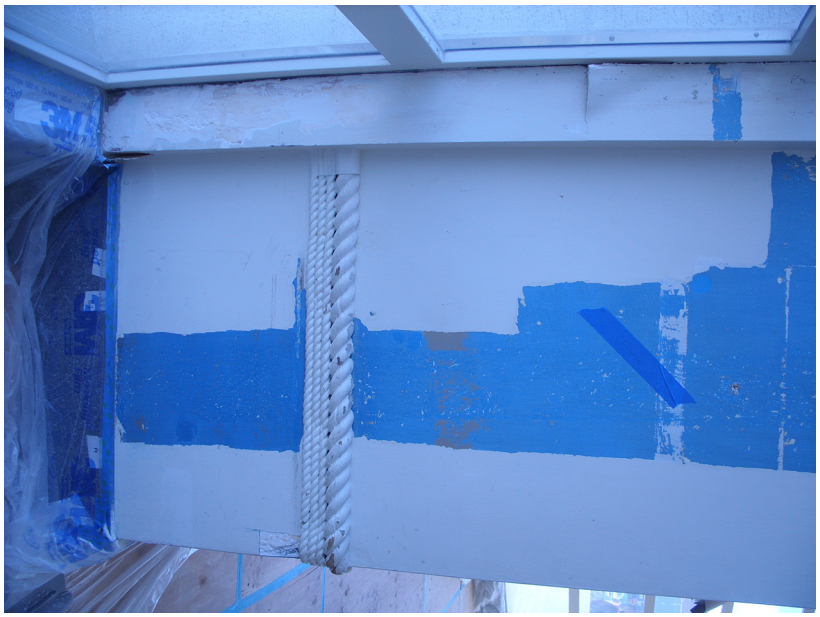
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12-08.JPG



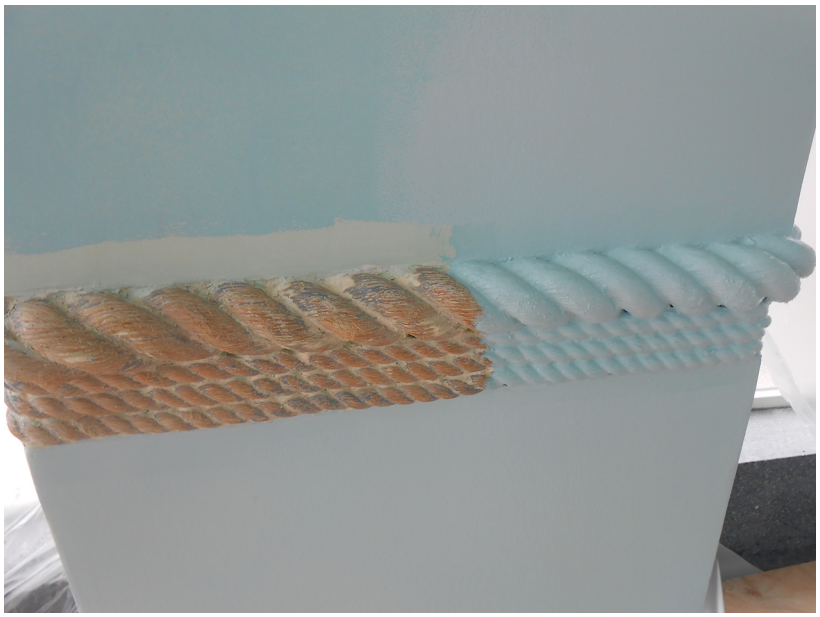
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12-10.JPG



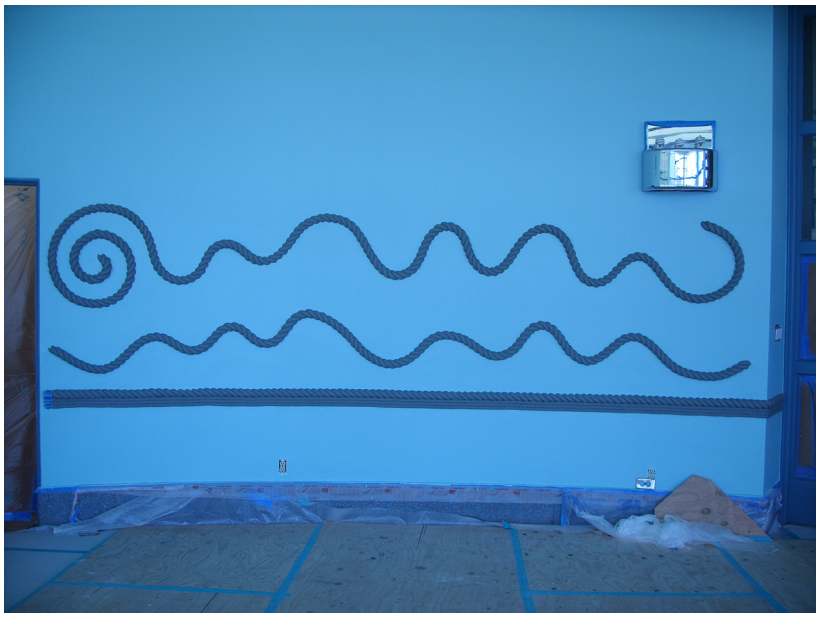
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13-02.JPG



14-00.JPG



14-01.JPG



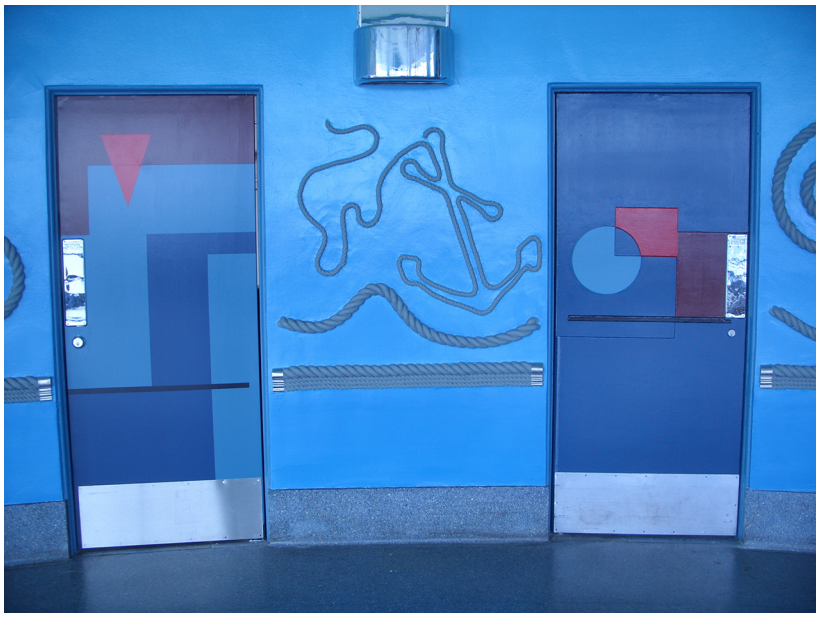
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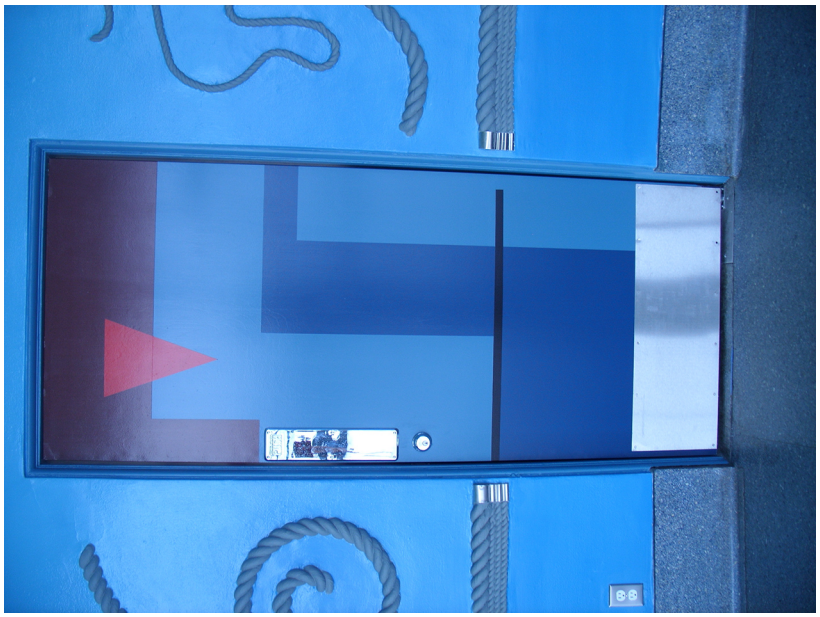
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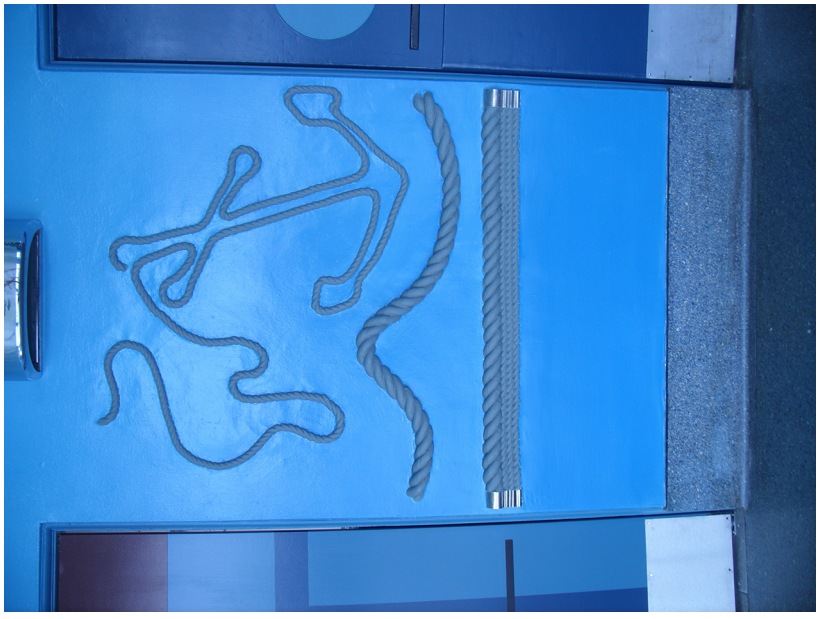
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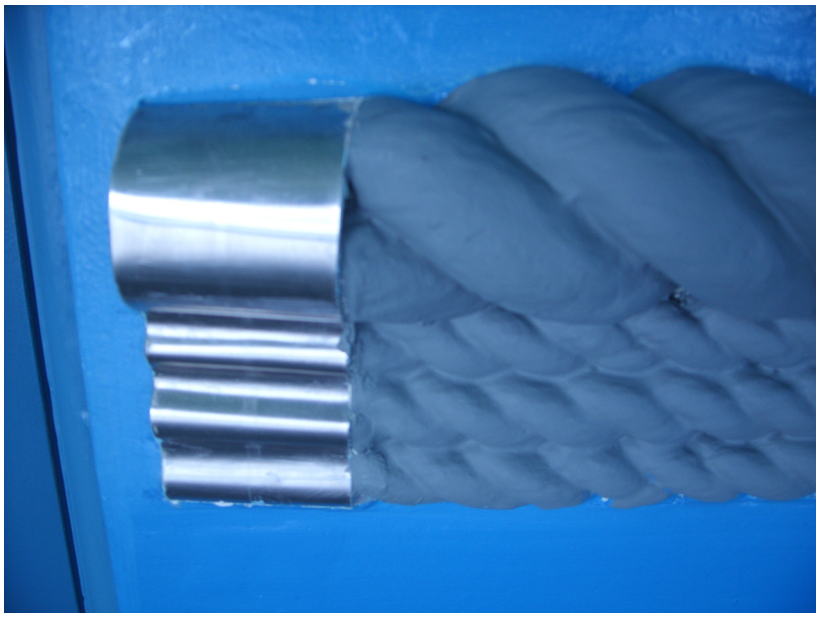
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15-02.JPG



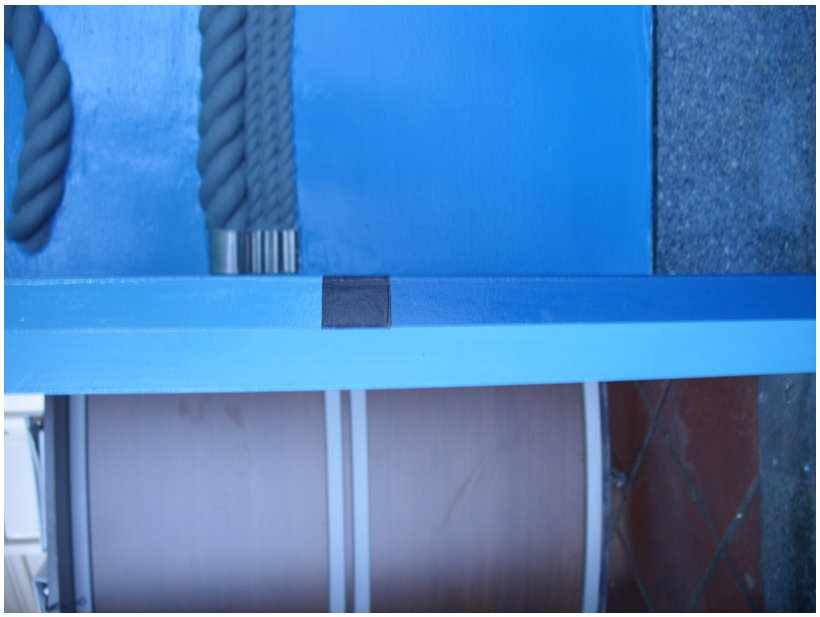
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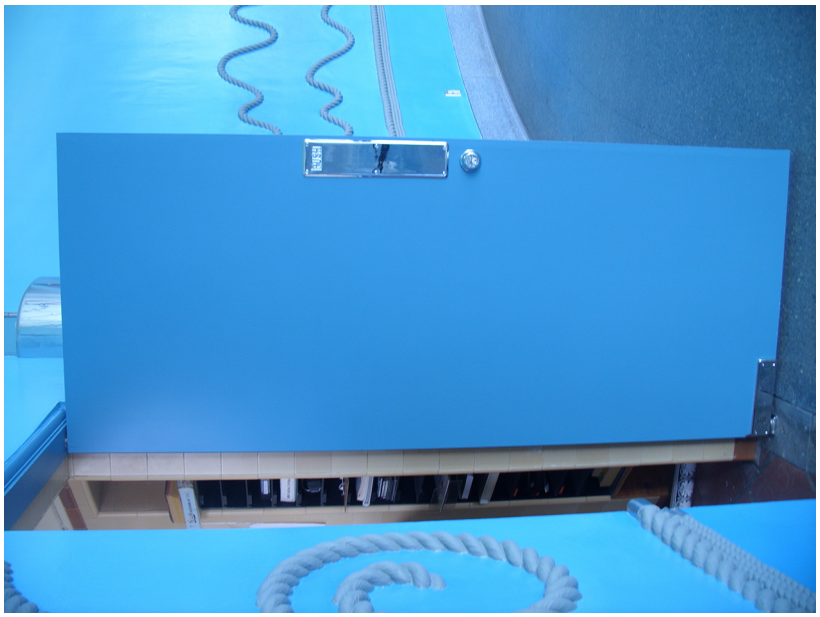
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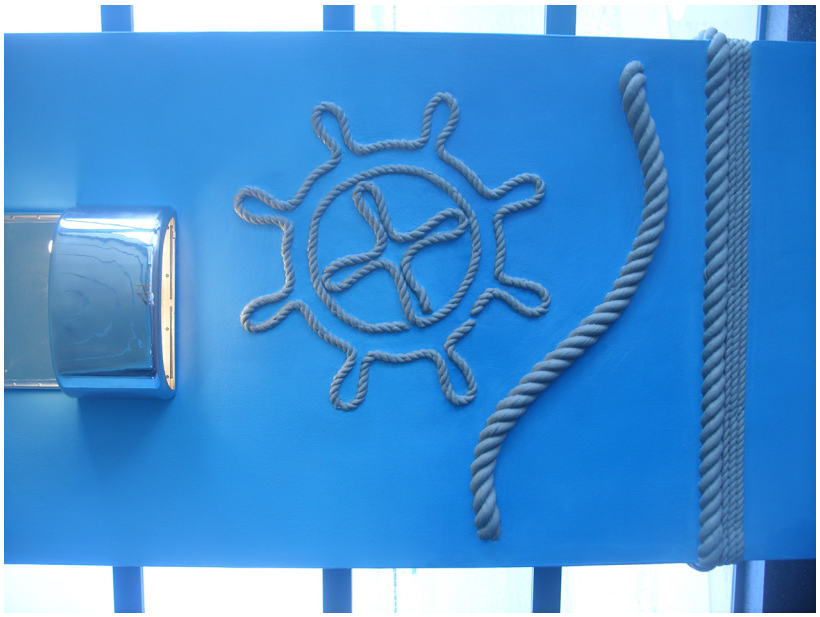
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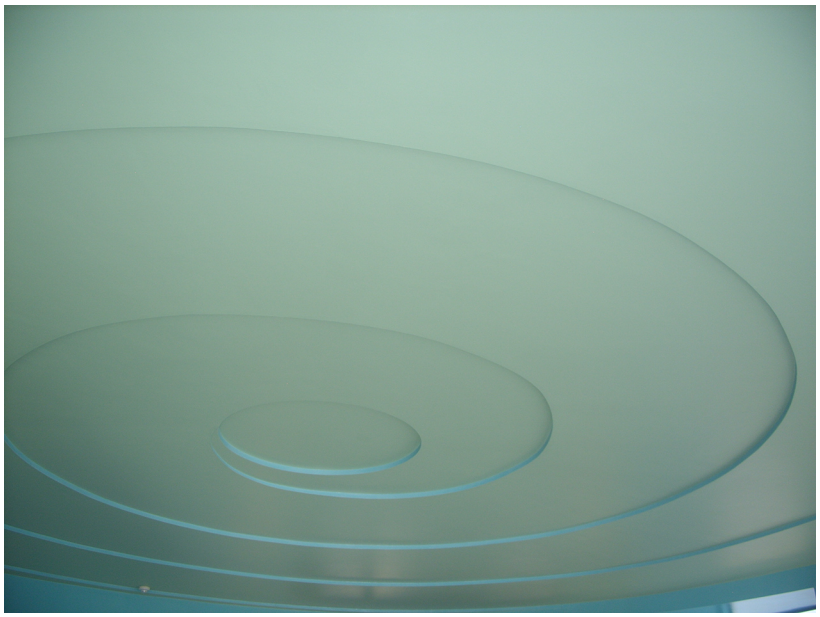
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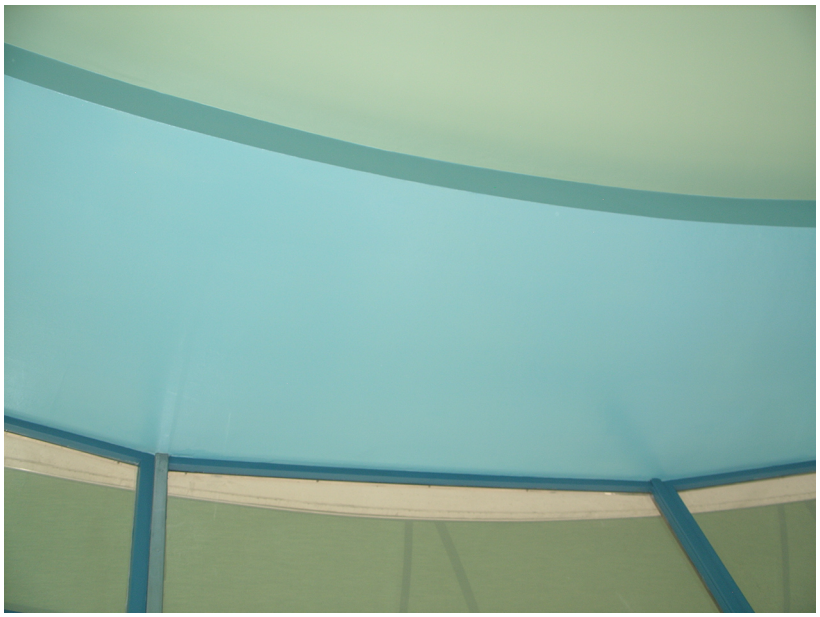
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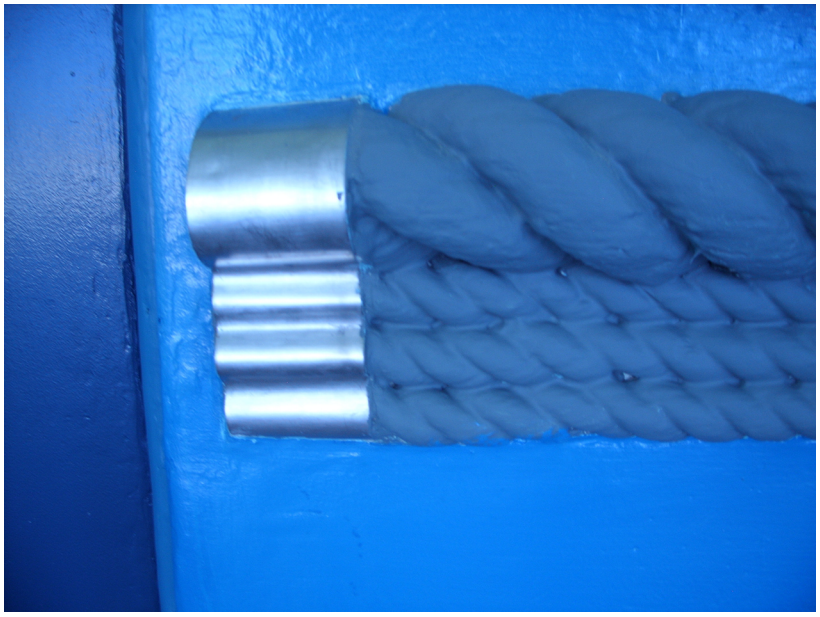
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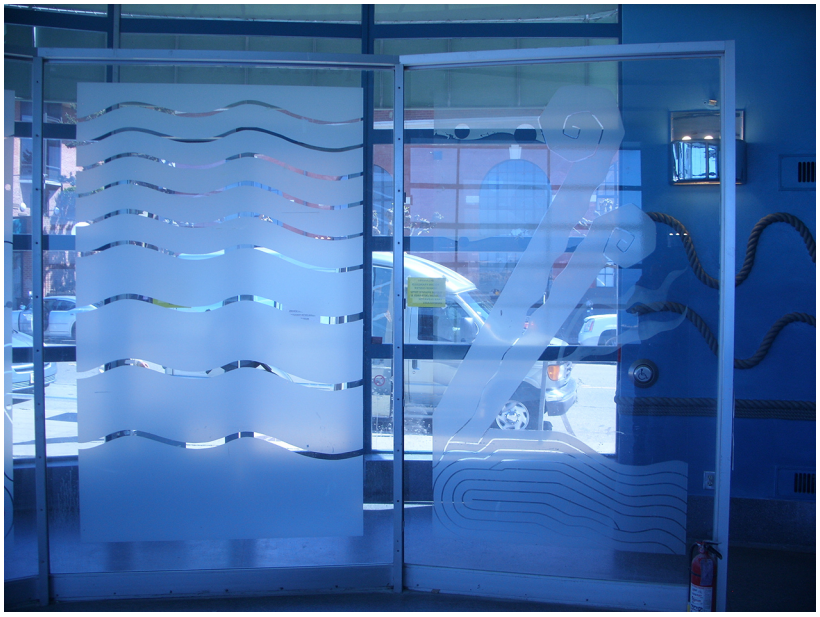
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15-40.JPG



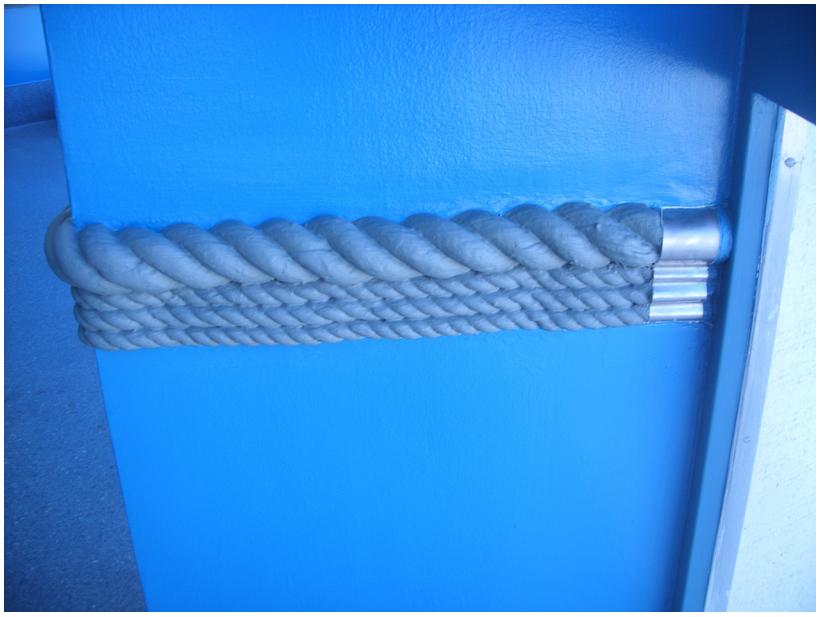
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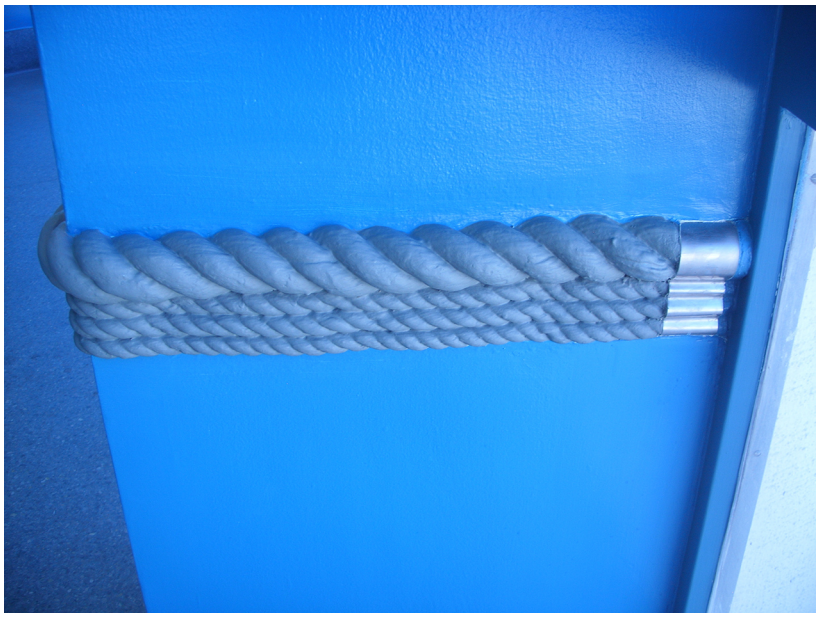
15-42.JPG



15-43.JPG



15-44.JPG



15-45.JPG

APPENDIX G:

Color & Product Info:

Color Documentation Schedule
Product Data & MSDS

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS
150 Commerce Court | Cheshire CT | 06410
www.canning-studios.com | 203-272-9868

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

San Francisco Maritime National Historical Park, San Francisco County CA
Contract No. P13PC00340, Bay View Mural and Ceiling Restoration, Pkg. # SAFR-165462

LOCATION	COLOR BRUSH OUT	BRAND
Window and Door Frame Color		Benjamin Moore Eggshell Acrylic
Rope Color		Benjamin Moore Eggshell Acrylic
Ceiling Finish Color		Benjamin Moore Eggshell Acrylic
Wall Finish Color (Before Decorative Color)		Benjamin Moore Eggshell Acrylic
Top of Wall *Decorative Color*	#1	Allback Linseed Oil Paint
Middle of Wall *Deocrative Color*	#2	Allback Linseed Oil Paint
Base of Wall *Decorative Color*	#3	Allback Linseed Oil Paint

San Francisco Maritime National Historical Park, San Francisco County CA
Contract No. P13PC00340, Bay View Mural and Ceiling Restoration, Pkg. # SAFR-165462

LOCATION	COLOR BRUSH OUT	
Ornamental Door Base Color		1 Shot Lettering Enamel
Ornamental Door Detail		1 Shot Lettering Enamel
Ornamental Door Detail		1 Shot Lettering Enamel
Ornamental Door Detail		1 Shot Lettering Enamel

JOHN CANNING & CO LTD
PAINTING • PLASTERING • CONSERVATION STUDIOS

PRODUCT DATA
San Francisco Maritime National Historic Park - Maritime Museum Building

Bay Bay View Mural and Ceiling Restoration
CONTACT NO: P13PC00340

PI/MSDS	1-Shot Lettering Enamel
PI/MSDS	Ajax Clear Household Ammonia
PI/MSDS	Allback Linseed Oil Paint
PI/MSDS	Allback Raw Linseed Oil
PI/MSDS	Benjamin Moore Aura Latex Interior Paint Egg Shell Finish
PI/MSDS	Beva Gel
PI/MSDS	DAP Vinyl Spackle
PI/MSDS	Fredrix Style - 574 Knickerbocker Cotton Canvas
PI/MSDS	Klean Strip Acetone
PI/MSDS	Klean Strip Denatured Alcohol
PI/MSDS	Klean Strip KS-3 Premium Stripper
PI/MSDS	Klean Strip Paint Thinner
PI/MSDS	Klean Strip Toluene
PI/MSDS	Polyvine Tropical Scumble Glaze
PI/MSDS	Rohm and Hass Acryloid Paraloid B-72
PI/MSDS	Roman Heavy Duty Clear Wallpaper Adhesive
PI/MSDS	Sheffiled Tintsall Universal Tints
PI/MSDS	Sherwin Willams Faux Impressions Latex Glaze
PI/MSDS	USG Easy Sand
PI/MSDS	Windex Glass Cleaner
PI/MSDS	Zep Heavy Duty Citrus Degreaser
PI/MSDS	Zinsser BIN Primer

MATERIAL SAFETY DATA SHEET

For 1Shot/Chromatic® Liquid Coatings and Associated Liquid Materials

One Shot, LLC
A Spraylat Company
5300 W. 5th Avenue
Gary, IN 46406
(219) 949-1684
Fax: (219) 949-1612

e-mail HSEcoordinator@Spraylat.com

PREPARED BY: Health, Safety and Environmental Coordinator

EMERGENCY PHONE:	**1-800-424-9300**	**Chemtrec**
INTERNATIONAL TRANSPORTATION ACCIDENTS:	**1-703-527-3887**	**Chemtrec**

Revision Date : 10/02/2007 **Version:** 8.3 **Supersedes:** All Previous

I. CHEMICAL PRODUCT IDENTIFICATION

Product Name: "1 SHOT®" Lettering Enamels (100-L through 199-L)

II. COMPOSITION/INFORMATION ON INGREDIENTS - *(EXPOSURE LIMITS - SEE SECTION VIII)*

INGREDIENT NAME	CAS #	%
Stoddard solvent	8052-41-3	< 40
1,2,4-Trimethylbenzene	95-63-6	< 5
Light Aromatic Solvent Naphtha	64742-95-6	< 5
Xylene	1330-20-7	< 5
Ethylbenzene	100-41-4	< 1

THE ITEMS LISTED BELOW ARE NOT CONTAINED IN MOST ENAMELS. SEE TABLE ON PAGE 2 TO DETERMINE WHICH COLORS CONTAIN THESE INGREDIENTS AND % WT.

INGREDIENT NAME	CAS #	%	INGREDIENT NAME	CAS #	%
1,3,5-Trimethylbenzene	108-67-8	-	Light Aliphatic Solvent Naphtha	64742-89-8	-
Aluminum	7429-90-5	-	Linseed Oil	8001-26-1	-
Aluminum oxide	1344-28-1	-	Naphtha, hydrodesulfurized heavy	64742-82-1	-
Barium Sulfate	7727-43-7	-	Nickel Antimony Titanium Rutile	8007-18-9	-
Benzimidazolone Compound(s)	TS16251056	-	Paraffinic Solvent	64742-47-8	-
Calcium Carbonate	471-34-1	-	Polymerized Linseed Oil	67746-08-1	-
Carbon Black	1333-86-4	-	Silicon Dioxide (amorphous)	7631-86-9	-
Copper	7440-50-8	-	Solvent Naphtha (petroleum), medium aliphatic	64742-88-7	-
Crystalline Silica	14808-60-7	-	Talc	14807-96-6	-
Ferric Oxide	1309-37-1	-	Titanium Dioxide	13463-67-7	-
			Zinc	7440-66-6	

III. HAZARDS IDENTIFICATION

	HMIS
HEALTH	2 *
FLAMMABILITY	2
REACTIVITY	0

0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme

* = Chronic Health Effects

ADDITIONAL INGREDIENTS OF LETTERING ENAMELS -- Weight %

PRODUCT#	DENSITY LBS/GL	V.O.C.‡ LBS/GL	CARBON BLACK	TITANIUM DIOXIDE	BARIUM SULFATE	1,3,5-TRIMETHYL-BENZENE	PARAFFINIC SOLVENT	COPPER	ZINC	FERRIC OXIDE	SILICON DIOXIDE (AMORPHOUS)	ALUMINUM OXIDE	OTHER
100-L	10.6	3.4				< 1							
101-L	11.6	3.0		<40		< 1							
102-L	9.2	3.5				< 1							
103-L	11.7	3.0		< 40		< 1					< 5	< 5	
104-L	8.7	3.1				< 1							
106-L	8.0	3.0				< 1							
108-L	8.4	3.2				< 1							
109-L	10.5	4.0				< 1	< 25	< 25	< 5				*
110-L	10.5	3.9					< 25	< 30					
111-L	10.6	4.0					< 25	< 20	< 10				*
114-L	9.6	3.4	< 1	< 5		< 1				< 20			
115-L	9.2	3.3	< 1			< 1				< 15			*
116-L	11.2	3.1		< 35		< 1					< 5	< 5	
117-L	10.3	3.2	<0.0	< 20		< 1				< 5			
118-L	11.3	3.0		< 35		< 1					< 5	< 5	
120-L	11.8	3.0		< 40		< 1						< 5	
124-L	10.5	3.6				< 1							
130-L	11.3	3.5		<20	< 5	< 1							*
132-L	11.3	3.7		<15	< 5	< 1							*
134-L	11.0	3.7		<15	< 5	< 1							*
141-L	8.8	3.3		<15	< 5	< 1							
142-L	9.4	3.5		< 5		< 1							*
143-L	8.6	3.4		<10		< 1							
144-L	9.3	3.8		< 5		< 1							*
148-L	9.0	3.6				< 1							
149-L	10.2	3.3		< 30		< 1					< 5	< 5	
150-L	9.0	3.3		< 10		< 1							*
151-L	11.3	3.0		< 40		< 1							
152-L	9.0	3.4		< 15		< 1							*
153-L	9.2	3.4		< 20		< 1							
154-L	10.9	3.0	<0.0	< 35		< 1					< 5	< 5	
155-L	8.2	3.5		< 5		< 1							
156-L	8.3	3.3		< 5		< 1							
157-L	8.8	3.3		< 15		< 1							
158-L	8.3	3.0	< 1	< 5		< 1							
160-L	9.4	3.3		< 20		< 1					< 5	< 5	
161-L	8.3	3.2		< 5		< 1							
162-L	8.2	3.5		< 5		< 1							
163-L	8.8	3.3		< 15		< 1							
164-L	8.7	3.3		< 15		< 1							
165-L	8.3	3.4		< 5		< 1							*
168-L	11.2	3.6		< 35		< 1					< 5		
191-L	11.0	3.4		< 20		< 1							
193-L	8.8	4.0				< 1	< 30						*
195-L	9.6	3.2	< 1	< 20		< 1				< 5			
199-L	7.8	2.2	<10								< 5	< 5	

Carcinogenicity:	IARC	Yes	Yes	No	No	No	No	No	No	No	No	*
	NTP	No	No	No	No	No	No	No	No	No	No	*
	OSHA	No	No	No	No	No	No	No	No	No	No	*

* See “List of Other Addtional Ingredients” at the end of this table for OTHER components.

‡ The VOC content is determined by using a percent solids basis, less water and exempt solvents, for adhesives, coatings and inks and the calculations of EPA Reference Method 24 or equivalent ASTM method approved by the executive office.

* LIST OF OTHER ADDITIONAL INGREDIENTS

PRODUCT#	OTHER INGREDIENT	CAS#	PERCENT	CARCINOGENICITY
109-L	Solvent Naphtha (petroleum), medium aliphatic	64742-88-7	< 5	No
111-L	Solvent Naphtha (petroleum), medium aliphatic	64742-88-7	< 5	No
114-L	Talc	14807-96-6	< 5	No
115-L	Crystalline Silica	14808-60-7	< 1	Yes (IARC, NTP only)
130-L	Linseed Oil	8001-26-1	< 5	No
132-L	Linseed Oil	8001-26-1	< 5	No
134-L	Light Aliphatic Solvent Naphtha	64742-89-8	< 5	No
	Linseed Oil	8001-26-1	< 5	No
142-L	Benzimidazolone Compound(s)	TS16251056	< 5	No
	Calcium Carbonate	471-34-1	< 5	No
	Nickel Antimony Titanium Rutile	8007-18-9	< 5	No
144-L	Benzimidazolone Compound(s)	TS16251056	< 5	No
	Nickel Antimony Titanium Rutile	8007-18-9	< 5	No
148-L	Benzimidazolone Compound(s)	TS16251056	< 5	No
	Nickel Antimony Titanium Rutile	8007-18-9	< 5	No
150-L	Calcium Carbonate	471-34-1	< 5	No
152-L	Calcium Carbonate	471-34-1	< 5	No
156-L	Polymerized Linseed Oil	67746-08-1	< 5	No
165-L	Naphtha, hydrodesulfurized heavy	64742-82-1	< 5	No
193-L	Aluminum	7429-90-5	<20	No

Routes of Entry: Inhalation, Absorption, Ingestion, Skin contact, Eye contact.

Medical Conditions Aggravated: Eye disease, Skin disease including eczema and sensitization, Kidney disease, Liver disease, Digestive tract disease, Lung disease.

Immediate (Acute) Health Effects:

Inhalation: Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. This product may cause metal fume fever with resulting flu-like symptoms. Can cause severe central nervous system depression (including unconsciousness).

Skin Contact: Can cause moderate skin irritation, defatting, and dermatitis.

Eye Contact: Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.

Skin Absorption: May cause irritation and minor systemic damage.

Ingestion: Toxic if swallowed. May cause target organ failure and/or death. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

Target Organ Acute Toxicity: Eyes, Skin, Respiratory System, Kidneys, Nervous System, Blood, Liver, Digestive Tract, Thyroid, Pituitary, Testes Stomach, Cardiovascular System, Bone Marrow, Lymphatic System.

Long-Term (Chronic) Health Effects:

Inhalation: Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.

Skin Contact: Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact: Upon prolonged or repeated contact, can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.

Skin Absorption: Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause severe irritation and systemic damage.

Carcinogenicity: IARC classifies ethylbenzene as “possibly carcinogenic to humans” (2B). See Tables on pages 2 and 3 for information on other components.

Target Organ Chronic Toxicity: Nervous System, Eyes, Skin, Respiratory System, Kidneys, Blood, Liver, Digestive Tract, Pituitary, Testes, Stomach, Cardiovascular System, Lymphatic System.

NOTICE - Reports have associated repeated and prolonged occupational overexposure to solvents with brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Lifetime inhalation exposure of rats and mice to high concentrations of ethylbenzene (750 ppm) resulted in increases in certain types of cancer, including kidney, lung and liver tumors. Testicular adenomas were increased as were thyroid effects in rats at 750 ppm. Pituitary effects were observed in female mice at 250 ppm. These effects were absent when exposure was below 75 ppm ethylbenzene. The study does not address the relevance of these results to humans.

IARC has recently re-evaluated titanium dioxide as possibly carcinogenic to humans (Group 2B) based on animal studies. However, human studies available to date do not suggest that occupational exposure to titanium dioxide increases cancer risk. The ACGIH classifies titanium dioxide as A4 (not classifiable as a human carcinogen). NTP does not classify it as carcinogenic. IARC's evaluation shows inadequate evidence of carcinogenicity in humans, but sufficient evidence of carcinogenicity in experimental animals. The evidence shows that high concentrations of powdered and ultrafine titanium dioxide dust caused respiratory tract cancer in rats exposed by either natural inhalation or direct introduction into the lungs. However, the same results are observed in people working in dusty environments. Therefore, IARC extended this idea to workers with exposures to titanium dioxide dust, if there are insufficient dust control measures in place. Based on the IARC decision, Canadian officials have agreed that titanium dioxide is classifiable as WHMIS D2A (carcinogen), and that it is not necessary to wait for release of the full monograph. OSHA requires the status on US MSDSs to change within 90 days of publication in the IARC monograph volume 93.

Only product #115-L contains Crystalline Silica (see List of Other Additional Ingredients, page 3): Cutting, sanding or grinding dried or cured material may release particles of crystalline silica (quartz). Exposure to airborne particles may cause lung damage including a risk of cancer. Chronic exposure may result in chest pain, difficulty breathing, lung damage and silicosis. (Silicosis is the permanent deposition of silica in lung tissue that results in lung damage.) There may exist a relationship between silicosis and certain cancers.

This product contains pigments which may become a dust nuisance when removed by abrasive blasting, sanding or grinding. See additional information above in this section for products containing Crystalline Silica.

IV. FIRST AID

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Eyes: Immediately flush eyes with plenty of luke warm water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Ingestion: Seek medical advice immediately. Provide ingredients information from Section II of this MSDS to the medical care provider. Contact your local Poison Control Center (listed in the telephone book), or dial the local "Emergency" (911) number for additional information. Do not induce vomiting unless instructed to do so by a physician or other competent medical personnel. Never give anything by mouth to an unconscious person.

V. FIRE FIGHTING MEASURES

Flammability Summary: **Combustible**

Flash Point: 41 ° C; 106 ° F

Autoignition Temperature: 226 ° C; 439 ° F

Lower Flammable/Explosive Limit, % in air: 1.0 **Upper Flammable/Explosive Limit, % in air:** 6.0

Fire Hazards: Empty containers that retain product residue (liquid, solid/sludge, or vapor) can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or crush used containers. Do not expose containers or product to heat, flame, sparks, static electricity, or other sources of ignition. Any of these actions can potentially cause an explosion that may lead to injury or death. Dusts at sufficient concentrations can form explosive mixtures with air. Water Reactive. Material will react with water and may release a flammable gas. Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back. This product, when dried or cured, may support combustion when subjected to sources of ignition or heat in sufficient amount.

Some products contain Linseed Oil (see List of Other Additional Ingredients on page 3). Rags, steel wool or waste soaked with linseed oil may spontaneously catch fire if improperly discarded. Immediately after use, place rags, steel wool or waste in a sealed water-filled container.

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used to extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.

Fire Fighting Instructions: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Hydrogen, Toxic fumes, Toxic gases.

VI. ACCIDENTAL RELEASE MEASURES

Health Consideration for Spill Response: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including: the material spilled, the quantity of the spill, and the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Evaporation of volatile substances can lead to the displacement of air creating an environment that can cause asphyxiation.

Spill Mitigation Procedures:

General Methods: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area.

Air Release: Ventilate the area by opening door and/or turning on fans and blowers.

Water Release: Avoid runoff into storm sewers and ditches that lead to waterways. If runoff occurs, notify proper authorities as required, that a spill has occurred. Retain all contaminated water for treatment.

Land Spills: Avoid runoff into storm sewers and ditches that lead to waterways.

VII. HANDLING AND STORAGE

Handling: Harmful or irritating; avoid overexposure to the material. Use only in a well ventilated area. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Do not get in eyes, on skin and clothing. Use spark-proof tools and explosion-proof equipment. Ground and bond containers when transferring material. May form flammable dust-air mixtures Guard against dust accumulation of this material. Remove contaminated clothing and wash before reuse. Launder work clothes frequently. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Minimize dust generation and accumulation. Follow all protective equipment recommendations provided in Section VIII. Avoid breathing material.

Storage: Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container closed when not in use. Store in a cool place in original container and protect from sunlight. Keep away from sources of ignition. Limit quantity of material stored.

VIII. ENGINEERING CONTROLS, PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE LIMITS

Engineering Controls: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. See table at the end of this Section VIII below for exposure limits. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Explosion proof exhaust ventilation should be used. Facilities storing or using this material should be equipped with an eyewash and safety shower. Vapor concentrations should be monitored and controlled in accordance with 29 CFR 1910.1000.

Protective Equipment:

Respiratory Tract: If general or local exhaust ventilation is not available or sufficient to reduce exposure to below acceptable levels, then respiratory protection is required to avoid overexposure when handling this product. Wear a NIOSH approved respirator if any exposure is possible.

Eyes: Wear safety glasses with side shields when handling this product. When the possibility exists for eye contact with splashing or spraying liquid, or airborne material, wear additional eye protection such as chemical splash goggles and/or face shield. Do not wear contact lenses. Have an eye wash station available.

Skin: Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Protective Clothing: Wear chemically resistant gloves and apron. (Consult your safety equipment supplier).

CHEMICAL NAME	CAS #	ACGIH TLV	OSHA PEL	IDLH
1,2,4-Trimethylbenzene	95-63-6	No TLV	No PEL established	Not determined.
1,3,5-Trimethylbenzene	108-67-8	No TLV	No PEL established	Not determined.
Aluminum	7429-90-5	10 mg/m3 TWA (metal dust)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	Not determined.
Aluminum Oxide	1344-28-1	as Al: 10 mg/m3 TWA (The value is for total dust containing no asbestos and < 1% crystalline silica)	total dust: 15 mg/m3 TWA; respirable fraction: 5 mg/m3 TWA	Not determined.
Barium Sulfate	7727-43-7	10 mg/m3 TWA (The value is for the total dust containing no asbestos and <1% crystalline silica)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)	Not determined.

Benzimidazolone Compound(s)	TS16251056	No TLV	No PEL established	Not determined.
Calcium carbonate	471-34-1	No TLV	No PEL established	Not determined.
Carbon black	1333-86-4	3.5 mg/m3 TWA	3.5 mg/m3 TWA	1750 mg/m3 IDLH
Copper	7440-50-8	fume: 0.2 mg/m3 TWA; dusts and mists, as Cu: 1 mg/m3 TWA	0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)	dusts & mists as Cu: 100 mg/m3 IDLH
Crystalline Silica	14464-46-1	0.05 MG/M3 TWA (This TLV is for the RESPIRABLE FRACTION of dust.)	SEE TABLE Z-3	Not determined.
Ethylbenzene	100-41-4	100 ppm TWA 125 ppm STEL	100 ppm TWA; 435 mg/m3 TWA	800 ppm IDLH (10 percent lower explosive limit)
Iron oxide	1309-37-1	as Fe: 5 mg/m3 TWA (welding fumes, dust, total particulate (N.O.C.))	10 mg/m3 TWA	as Fe: 2500 mg/m3 IDLH
Light aliphatic solvent naphtha	64742-89-8	No TLV	No PEL established	Not determined.
Light Aromatic Solvent Naphtha	64742-95-6	No TLV	No PEL established	Not determined.
Linseed Oil	8001-26-1	No TLV	No PEL established	Not determined.
Nickel Antimony Titanium Rutile	8007-18-9	0.2 mg/m3 (inhalable fraction of insoluble nickel compound); As Sb: 0.5 mg/m3	As Ni: 1 mg/m3 8hr TWA; As Sb: 0.5 mg/m3 8hr TWA	Not determined.
Paraffinic solvent	64742-47-8	No TLV	No PEL established	Not determined.
Polymerized Linseed Oil	67746-08-1	No TLV	No PEL established	Not determined.
Silicon Dioxide (amorphous)	7631-86-9	10 mg/m3 TWA	Respirable Dust: 20 mppcf	3000 mg/m3 IDLH
Titanium dioxide	13463-67-7	10 mg/m3 TWA	15 mg/m3 TWA (total dust)	Potential NIOSH carcinogen.
Zinc	7440-66-6	No TLV	No PEL established	Not determined.

IX. PHYSICAL DATA

Appearance: Liquid.
Odor: Aromatic
pH: N/A
Octanol/Water Coeff: Not Determined.
Solubility in Water: Minimal
Vapor Density: Heavier than air. Vapors that evolve from this product will tend to settle and accumulate near the floor.
Evaporation Rate: Slower than n-Butyl Acetate.
Density See Table on page 2.
V.O.C. See Table on page 2.
Initial Boiling Point 154 ° C; 309 ° F
Initial Freezing Point N/A

X. STABILITY AND REACTIVITY

Stability Information: Stable under normal conditions. Spontaneous combustion can occur with products containing linseed oil.

Conditions to Avoid: Sparks, open flame, other ignition sources, and elevated temperatures. Contamination. Contact with water. Avoid spontaneous combustion of contaminated rags and other easily ignitable accumulations (example: spray booth residue) by immediate immersion in water.

Chemical Incompatibility: Chlorine, Strong oxidizing agents, Strong acids, Strong alkalies, Water, Moisture, Ethylene oxide.

Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide, Metal fumes, Hydrogen, Sulfur containing gases, Toxic fumes, Toxic gases.

XI. TOXICOLOGICAL INFORMATION

Chemical Name	LD50/LC50
Benzene, 1,2,4-trimethyl-	Inhalation LC50 Rat : 18 gm/m3/4H; Oral LD50 Rat : 5 gm/kg
Benzene, ethyl-	Oral LD50 Rat : 3500 mg/kg; Dermal LD50 Rabbit : 17800 uL/kg
Carbon black	Oral LD50 Rat : >15400 mg/kg; Dermal LD50 Rabbit : >3 gm/kg
Carbonic acid, calcium salt (1:1)	Oral LD50 Rat : 6450 mg/kg
Mesitylene	Inhalation LC50 Rat : 24 gm/m3/4H
Solvent naphtha, light aromatic	Oral LD50 Rat: 8400 mg/kg
Xylene	Inhalation LC50 Rat: 5000 ppm/4H; Oral LD50 Rat: 4300 mg/kg; Dermal LD50 Rabbit: >1700 mg/kg

XII. ECOLOGICAL INFORMATION

Overview: Care should be taken to minimize releases of any industrial chemicals to the environment.

XIII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is a hazardous waste. The waste is ignitable.

Disposal Methods: Information in this MSDS is provided only as a guide. Consult with competent authority to determine proper waste disposal procedures. Clean up and dispose of waste and clean-up materials in accordance with all federal, state, and local environmental regulations.

Potential EPA Waste Codes: D001

Some Components Possibly Subjected to USEPA Land Disposal Restrictions:

When disposing of unused products or any waste, the preferred options are to send to a licensed reclaimer or to permitted incinerators. There may be some other ingredients subject to LDR categories.

Zinc	7440-66-6
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethyl benzene	100-41-4

XIV. TRANSPORTATION INFORMATION

Agency	Basic Description and Label
DOT	DOT by Land Transport: Not Regulated; DOT by Air and IATA (all modes): Paint, 3, UN1263, PG III, Label Required: Flammable Liquid

Hazardous Substance

Copper	RQ = 5000 pounds (2270 kg); The RQ for these hazardous substances is limited to those pieces of the metal having a diameter smaller than 100 micrometers (0.004 inches).
Zinc	RQ = 1000 pounds (454 kg); The RQ for these hazardous substances is limited to those pieces of the metal having a diameter smaller than 100 micrometers (0.004 inches).
Xylenes (isomers and mixture)	RQ = 100 pounds (45.4 kg); also listed as Xylene; also listed as Xylene (mixed); also listed as Benzene, dimethyl-
Ethyl benzene	RQ = 1000 pounds (454 kg)

XV. REGULATORY INFORMATION

Regulation

SARA 313 Reportable :	Copper, Aluminium (fume or dust only), Zinc, 1,2,4-Trimethylbenzene, Xylene (mixed isomers), Ethyl benzene, Nickel Compounds,Antimony Compounds.
TSCA Inventory :	All components of this product are listed in, or exempt from, the TSCA 8(b) Inventory.
M.S.D.S. Reportable HAP(s) :	Xylenes (isomers and mixture), Ethyl benzene, Nickel Compounds,Antimony Compounds.
California Proposition 65 :	The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65: "WARNING: This product contains chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm."

XVI. ADDITIONAL INFORMATION

Major References: VENDOR'S MSDS's, PAINT & COATINGS HANDBOOK, EPA's LIST OF LISTS, AND OTHER PUBLISHED MATERIALS.

IMPORTANT: WHILE THE DESCRIPTIONS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, THEY ARE PROVIDED FOR YOUR GUIDANCE ONLY. MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION OR USE, INCLUDING USE OF THIS MATERIAL IN COMBINATION WITH OTHER MATERIALS OR PROCESSES. YOU THEREFORE SHOULD, AND THIS MATERIAL IS SUPPLIED ON THE CONDITION THAT YOU, PERFORM AN ASSESSMENT TO DETERMINE THE SUITABILITY OF THE MATERIAL PRIOR TO USE, AND YOU ACCEPT RESPONSIBILITY FOR SATISFYING YOURSELF THAT THE MATERIAL IS SUITABLE AND THE COMPLETENESS OF THIS INFORMATION IS SUFFICIENT FOR YOUR USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED, DATA, OR INFORMATION SET FORTH. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, OR DATA PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE, AND WE DISCLAIM LIABILITY FOR LOSS OR INJURY ARISING FROM YOUR USE OF THIS MATERIAL, DATA OR INFORMATION. FURTHER, THE DESCRIPTIONS, DATA AND INFORMATION FURNISHED HERE ARE GIVEN GRATIS. NO OBLIGATIONS NOR LIABILITIES FOR THE DESCRIPTION, DATA AND INFORMATION GIVEN ARE ASSUMED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

ALLBÄCK WINDOWCRAFT & LINSEED OIL PAINT



Who are we?

Thirty years ago we started renovating windows and painted the window frames on the outside and inside with recommended paint from Sweden's leading paint manufacturer. We were far from happy with the result. Also the solvents used in the paint made us ill.

This was what started us on our quest to rediscover all that used to be known about linseed oil paints, used and improved for hundreds of years until modern times when acrylic and alkyd paints took over.

Forgotten knowledge and ancient wisdom combined with modern production techniques have enabled us to develop a new generation of linseed oil products that meet all our needs when it comes to technical properties, spraying, drying time, the environment, storage, ease of maintenance, beauty and cost.



Sonja and Hans Allbäck



Hôtel de la Guerre, Versailles, France



Villa Allbäck, Ystad, Sweden



Allbäck Windowcraft end Paint for the Royal Castle, Copenhagen, Denmark.

Our products

Linseed Oil Paint

Linseed Oil Paint is made from cold-pressed linseed oil that has been boiled, cleaned, filtered and sterilised. The paint contains no solvents and must not be diluted with solvents. The colours are made from titanium dioxide, metal oxides and earth pigments. Linseed Oil Paint can be painted on all dry and clean surfaces. Our Linseed Oil Paint also covers double the area of alkyd and acrylic paints.

Raw and Boiled Linseed Oil

The raw, cold-pressed linseed oil is processed into a range of different products. The oil is cleaned from the sludge and sterilised. This oil is ideal for impregnating timber. Boiled Linseed Oil is used to dilute paint and for maintaining painted surfaces. According to an old recipe: *"Linseed oil must not be taken for the service of mankind before it has been cleaned from sludge". (Gutle 1790s)*

Linseed Putty

Linseed Putty is made from cold-pressed raw linseed oil and chalk and is vacuum treated. It is used for glazing windows and can be painted over immediately with our Linseed Oil Paint. Linseed Putty can also be used as a filler to fill holes and cracks. For long-term storage, keep in the freezer.

Linseed Soap

Linseed Soap is made from our purified raw linseed oil. It is a clean, natural product with no additives. We use Linseed Soap for all our cleaning; brushes, floors, benches, stain removal, in the washing machine and for personal hygiene.



25 years after renovation. Maintained only with Linseed Oil



The oil is cleaned from sludge & sterilised



Linseed Putty



Linseed Soap for all cleaning needs

Linseed Oil Wax

Linseed Oil Wax is made from linseed oil and beeswax. It provides water-repellent external protection on unpainted, glazed or painted timber surfaces. The wax is applied with a sponge and then wiped with a clean cloth.

Colour Wax

Colour Wax is made from linseed oil, beeswax, natural pigment and water. It provides a water-repellent glaze for untreated floors, furniture and wood panelling.

Primer

Flakes of Shellac dissolved in water, used on very absorbent surfaces and as a sealant. Mixed with chalk it is an excellent undercoat for carpentry.

Why Allbäck Linseed Oil Paint?

- Contains no solvents and must not be diluted with solvents.
- Contains cleaned, sterilised linseed oil and natural pigments.
- One tin system – the same paint for exterior and interior use and for all coats.
- A dry matter content of 100% with coverage of approximately 15-20 sq.m./litre.
- Dries in 24 hours at room temperature with good ventilation.
- Use well documented in our own projects since 1982.
- Emission tested and approved by the Swedish Work Environment Authority and the Swedish National Heritage Board.



Linseed Oil Wax for concrete floors



Colour Wax on untreated wood



Masonic Lodge, Oslo, Norway. Linus Wallpaint on ceiling. Linseed Oil Paint on woodwork.

Linus Wallpaint

Linus Wallpaint is a matt emulsion for interior use. The paint can be applied with a roller or brush on all surfaces; wood, paint, plaster, wallpaper, whitewash, plasterboard and woven surfaces. The paint contains linseed oil, water, natural pigment, chalk and cellulose glue and covers approximately 10 sq.m./litre. It looks like a distemper, fills like a filler and is washable. Without preservatives and softeners it more than meets today's more stringent environmental requirements.

Fasade - Emulsion Paint

Our emulsion, a water emulsion linseed oil paint, is a traditional classic for plaster interior and exterior walls. Whisk approximately 30 – 40% water into our ordinary Linseed Oil Paint with an electric whisk. Apply the paint using a brush or a roller on external walls, brick or plinths. The paint does not seal in moisture and can also be used on cellar walls, cellar floors and in stables. The finish will be semi-matt, washable and very weather resistant. The surface can also be pressure washed.

Linseed Soap Extra

Linseed Soap Extra is strengthened linseed soap for extra cleaning of paintwork, plastic, metal and glass. It contains Linseed Soap, ethanol and borax.

Stove Blacking

Contains cleaned linseed oil and graphite powder. Apply with a sponge and wipe.



Linus on interior wall and Stove Blacking



Linseed Soap Extra



Garage Linseed Oil Emulsion Paint after 14 years

Instructions

What is to be painted and why? Paint as a decoration, or as a wear layer for protection?

Note: Risk of self-ignition in porous material. Burn rags, etc. or soak in water.



Allbäck Linseed Oil Paint

Preparation

For interior and exterior timber, metal, iron and plastic

When repainting, the old surface must be clean and dry. Maximum timber moisture content 14%. To clean painted or unpainted surfaces use Allbäck Linseed Soap Extra or Linseed Soap. Rinse thoroughly. Leave to dry. Avoid washing with products with a high pH. Existing, naturally occurring mildew must be removed from the surface before painting. Otherwise it will grow through from underneath all kinds of paint. Attacks of mould will stop automatically when treated with heated Linseed Oil, for example with a heat gun. Otherwise "sterilise" using chemicals. (See website article on mildew and dirt on linseed paint). *Our Linseed Oil Paint is not a pesticide.*

Sawn, rough timber needs more paint, takes longer to paint and attracts more dirt than planed timber. The elasticity and friction in the paint means it absorbs more dirt in the initial phase. Gradually, as the surface becomes matt, the grains of pigment slowly fall out and the surface becomes self-cleaning.

White colours yellow more in dark spaces.

Where there is a risk of mould growth outdoors, mix in the pure zinc paint, approximately 15 – 20%. The colour will not be affected. (Exceptions to this are Verona Brown and English Red).

Painting

- The paint covers approximately 15 – 25 sq.m. depending on the surface.
- Drying time: 20 - 24 hours at room temperature with good airflow, light, and low humidity approximately 60% RH. Indoors with high humidity, use a dehumidifier.
- First impregnate with raw cleaned linseed oil if painting bare, dried timber. The oil must be well absorbed by the timber. Heat into the timber using hot air, for example, and paint immediately.
- Stir the paint carefully before painting.
- Where necessary strain the paint to avoid flakes of "skin".
- The paint must **not** be diluted with solvents. Where necessary thin with max. 5% Boiled Linseed Oil.
- Spread the paint well in several directions before the final long brushstroke. Use a stiff natural brush (Gnesta brushes).
- Apart from variations in shine, the paint should provide complete coverage with one coat. Paint at least two coats.
- The paint can be used in sunshine.
- Use Allbäck Linseed Soap to clean brushes and hands.
- Store brushes hanging in a tin of Raw Linseed Oil. This oil can be used for impregnation.
- The paint can be spray painted undiluted. High pressure – small mouthpiece.

- Variations in shine can arise with uneven absorption or application. This will even itself out over time. The matt surface is the end result. Ways of reducing these variations are to impregnate with Linseed Oil or wipe the finished surface with Linseed Oil.

Raw and Boiled Linseed Oil

- The colour of linseed oil ages visibly. After a while the colour will become matt. After further time, the colour will "chalk", the pigment will fall out.
- Maintain the surface by cleaning it and adding a new layer of Boiled Linseed Oil or Linseed Oil Wax. The surface will regain its former function and shine.



Impregnate with Linseed Oil and heat gun



Mixer for Fasade - Emulsion Paint



One and two coats. Finish painting.



Linseed Oil Paint on plastic floor



Linus Wallpaint

The paint can be used on all interior surfaces; timber, painted surfaces, plaster, wallpaper, distemper, plasterboard, woven surfaces, etc.
Linus Wallpaint is ideal for touching up. The painted surface is washable. The drying time is approximately 24 hours. The paint comes in 6 basic colours which can be mixed with each other.
Packaging; White 1L and 3L tins.

Before painting

The paint covers approximately 10 – 15 sq.m./litre depending on the surface and the desired texture. Linus Wallpaint is quite thick in the tin and can be varied in a number of different ways. Therefore it is important to decide in advance what you want the finished surface to look like and to do a test.
Estimate approximately 3 litres of paint/10 sq.m. for two coats.
The surface may "chalk" before it is fully covered.

If the surface is very absorbent, such as plaster, woven surfaces, etc., the surface can be pre-treated with Allbäck Shellac Primer. Primer also stops water damage, soot and nicotine from showing through.

Painting

Pour off the surface water. Stir the paint carefully, ideally with a whisk. If a hard skin has formed on the surface of the paint, remove this first or pass the paint through a sieve or nylon stocking before painting. The paint is quite thick in the tin so it is usually diluted with about 10 % water.

Perlon rollers work well on all surfaces and hold a large amount of paint even if it is thin. Denser rollers don't release enough paint and will leave stripes at the edges. Test the roller first. The risk of stripes in the painted surface is lower the thinner the paint is.

Test paint to ensure the desired texture. Dilute with water for a smoother surface. If there are stripes or more texture than you intended, let the paint dry completely and sand the surface with sandpaper. Paint again with thinner paint.
Paint the edges of the wall first. Then roll or brush the whole wall. Paint in sections about 1 m at a time. The roller/brush should be overflowing with paint.
When the paint is dry, it can give off a strong smell of linseed oil. There is a large amount of oil and water that has to oxidise and evaporate. This can be irritating to the eyes. **Make sure the space is well ventilated! The smell will gradually disappear.** Let the first coat dry properly before painting a second, about 24 hours.
Sometimes the drying time for the first coat can be extended as the linseed oil in the paint reacts with the surface. Wash and dry the roller between coats. The water that is pressed out of the roller during painting will leave light marks. This also applies to paint that is not sufficiently stirred when diluting. Paint at least two coats.



Linus Wallpaint and perlon rollers


Two coats on wood with Linus

After painting

Pour new water on top of the surface and top with a tightly fitting lid. Store in a frost-free place.
The paint will keep for many years. However, paint that has been stored for many years may need to be strained before it is as good as new. The paint will only be completely cured after a few weeks so be careful with wear and wiping it at the beginning. Rinse rollers and brushes in a bucket of soapy water. Do not rinse down the drain. Then wash rollers and brushes thoroughly with soap in the sink. Leave the bucket of washing water to stand so that the paint sinks to the bottom. Pour away the water and dispose of the paint remains with the ordinary rubbish.

Linus as a filler

Pour off the surface water. Do **not** stir the paint. It needs to be as thick as possible. If the paint is too thin to use as filler, add chalk. Use the paint to smooth joins in wallpaper and fill uneven areas. It can also be used as an undercoat on entire walls. Leave to dry and sand. Paint two coats as normal.

Linus as whitewash

Dilute the paint with about 30% water and brush on 2 – 3 coats with a soft, wide brush. The paint will also bind with old whitewash.

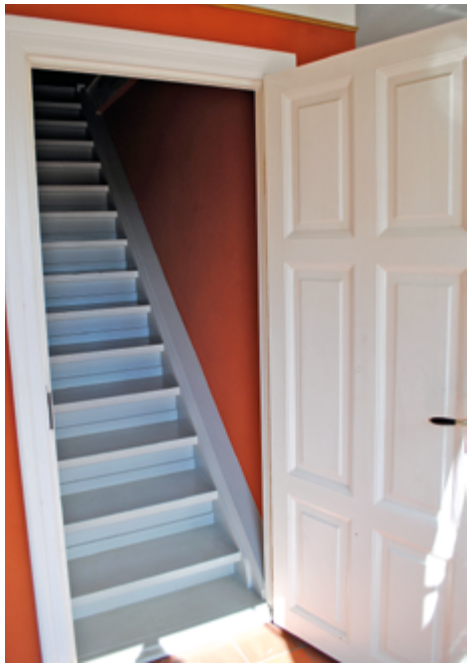
Linus for stencilling

Linus Wallpaint used without thinning or with the addition of chalk is excellent for stencilling. Linus black and gold are contain slightly more oil than the other shades. To avoid the oil permeating the paint underneath, gold and black Linus Wallpaint can be poured onto a paper plate during painting. The paper will absorb any excess oil. When painting lines, use tape designed for the purpose.


Cut in the edges on dry Linseed Oil Paint

Linus and Linseed Oil Wax for furniture:

Gives a tough, writable and silky smooth surface. Use shellac on all knots.
Paint using Linus Wallpaint to achieve desired coverage. Dilute the paint with water to avoid visible brush strokes.
Use a soft brush. Leave the paint to dry properly. Sand with fine sandpaper if necessary.
Polish with Linseed Oil Wax or Colour Wax. Leave to dry. Polish again. Waxing and polishing can be repeated until the desired effect is achieved.
White Linus paint should be waxed with white Colour Wax. The uncoloured wax comes out slightly yellow.
Use grey wax on white, sanded Linus paint to achieve an "antique" look. An alternative is to paint the first coat with Linus in a darker shade, which will then shine through when the paint is sanded.



Linus wallparint Brickred. Stairs Sea Mist. Door Old White

Different shades

All Linus Wallpaint colours can be mixed with each other. Different shades can also be produced by adding pigments for acrylic paints available from art shops. Green umber gives the white paint a good hue. *Linus **cannot** be mixed with Linseed Oil Paint.*

Linus paint and yellowing, etc.

The paint will yellow slightly if it is not exposed to light. In darker spaces, it can be a good idea to mix 10 – 20% grey with white Linus paint.
Yellow marks will appear behind pictures, furniture, etc. but these will disappear on their own when the surface is once more exposed to light. Of course, marks can be painted over.
Linus Wallpaint can react chemically with certain plastic surfaces. If this is the case, the first coat will produce a stronger smell. After that the paint will behave as normal.



Maintain with Linseed Oil Wax



Linseed Oil Wax on wood

Linus is also good for

Papered ceilings
Linus can be spray painted.

Linseed Oil Wax

Coverage approximately 50 sq.m. per litre.
Brush off loose pigment/dirt or wash with Allbäck Linseed Soap Extra.
Rinse and leave to dry
Apply a thin layer of wax with a **coarse** scouring sponge. Wipe off any excess.
Produces a water-repellent surface and a new finish.
Otherwise use as Colour Wax.

Colour Wax

Coverage approximately 30 – 40 sq.m. per litre

Use

Surface treatment of untreated timber or sanded Linus Wallpaint. The colour wax produces a waxy, transparent, wipeable surface. Colours: white, grey, brown, black, red, mahogany and oak. Colour Wax is suitable for untreated timber; floors, furniture, handicrafts, timber ceilings, etc.
Drying time: 24 – 48 hours. The drying time may be longer for knots in the timber depending on the resin content in the knot and the thickness of the wax layer. For this reason a thin layer of wax should be applied and all excess wax wiped off.
Remember that the result of treatment intended to have a glazing effect is affected by the absorbency of the timber and the existing colour. The appearance produced by the wax will vary depending on the surface to which it is applied. A sanded timber surface absorbs more wax and will gain a deeper colour than a planed surface.
Surfaces which have previously been used or treated must be sanded well or the colour may be uneven. Test first!

Shades and coverage

If less colour is desired, Colour Wax can be mixed into plain Linseed Oil Wax to achieve the desired effect. The different wax shades can be mixed together. For a more even colour, add two coats of wax.



Colorwax White on untreated timber

Instructions

Wash the floor/timber. Mix a small amount of ammonia into the washing water. Use approximately 100 ml ammonia to 10 litres of water. The ammonia makes it easier for the water to be absorbed if the surface is greasy. The ammonia also makes it easier for the wax to be absorbed by knots in the timber. Leave to dry. Sand off the raised grain with a fine sandpaper. Vacuum/dry the surface.

Apply the wax with a cloth or a coarse sponge. Work in the direction of the grain a few boards at a time. Leave the wax to absorbed for about 15 – 20 minutes. Wipe off the excess with a towel, ideally towelling. It should be possible to walk/touch the wax surface immediately without marking the wax. If the wax is left to dry for several hours, machine treatment will be necessary to bring out the surface. A small amount of pigment will come off on socks/fingers before the wax has dried. Too much wax will produce a sticky surface with uneven shine. Leave the wax to dry for 24 - 48 hours. **Waxing is complete.**

Depending on the quality of the timber and its absorption, the surface may need a second coat of wax. Sand with fine sandpaper if necessary. Add a second coat of wax. It may be useful to use uncoloured Linseed Oil Wax as the final coat as it is greasier than the Colour Wax and slightly easier to polish.

Polishing

Leave the wax to dry properly. Check that the wax has also dried in the knots. Polish with a cloth or a nylon stocking. Electric polishers can also be used.



Paint all coats out onto the glass

Linseed Soap

pH approximately 9.5 undiluted

- For hands, kitchens, bathrooms, brushes, timber/stone, plastic floors, benches, stain removal, etc.
- For normal cleaning: Use 100 ml soap to a bucket of water.
- For new or sanded timber floors: Moisten the floor with cold water to avoid marks. Scrub with undiluted Linseed Soap. Wipe dry. *Floors that have been treated with soap or lye **cannot** be painted with Linseed Oil Paint.*
- Stains on textiles: Rub in with a little water and leave to stand. Wash in a washing machine.
- Cleaning/rust protection of fittings: Boil rusty fittings in 50% soap, 50% water. Leave to cool overnight. Rinse and dry.

Linseed Putty

- Linseed Putty is made from cold-pressed raw, cleaned and filtred linseed oil and chalk.
- Old hard Linseed Putty is as good as new after a few seconds in a microwave on full power.

- Empty out the whole pot and knead the whole lump of putty until soft before use. Ideally use at room temperature.
- Brush shellac into the putty rebates before glazing. This prevents the oil from leaching into the wood.
- If the putty is too sticky, knead it on a piece of card.
- If it is too hard, heat it.
- The putty must be painted over within 24 hours or after about a week.
- The putty can be stored in the freezer.
- Thinned putty consisting of a few drops of turpentine mixed into the putty can be used to temporarily seal cracked rebates. Apply with a brush and dry with paper once it goes sticky. Paint immediately.
- Paint all coats out onto the glass pane about 2 cm. When the paint is dry wet the glass with soft soap water. Cut in the paint and leave 2 mm on the glass pane.

Primer

- To achieve a high surface finish when painting carpentry.
- Primer for interior and exterior painted surfaces. Stir in enough chalk to make a thick, paintable primer. Apply with a brush. Leave to dry for approximately 30 minutes. Hot air can reduce the drying time to a few minutes. Sand and paint.
- Can also be used as a sealant to protect against nicotine or water damage or to prepare a highly absorbent surface for painting with e.g. Linus Wallpaint.



Primer as a sealant



Thinned Putty temporarily seal cracked rebates.

Linseed Soap Extra

- For cleaning very dirty surfaces, e.g. sooty stove glass or for cleaning before painting.
- Apply with spray, sponge or brush. Leave to work. Rinse off before the surface dries.



Wet the glass and cut in the paint

Organic Linseed Oil Paint

For wood, metal, plastic and previously painted clean and dry surfaces. Exterior and interior.

50003
White
NCS 0300-N

50241
Vintage White
NCS 0502-Y

50004
Old White
NCS 0502-G50Y

50216
Silver Grey
NCS 1502-Y

50005
Sea Mist
NCS 2502-Y

50663
Oyster Green
NCS 3005-G50Y

50096
Parchment
NCS 1010-Y20R

50236
Old Gold
NCS 5030-Y10R

50007
Antique Gold
NCS 3060-Y10R

50008
Custard
NCS 1030-Y20R

50094
Barley White
NCS 0510-Y20R

50152
Buttermilk
NCS 0520-Y30R

50011
Holkham Green
NCS 8005-G50Y

50012
Spruce Green
NCS 7010-G30Y

50095
Wild Sage
NCS 4020-G30Y

50013
Lichen
NCS 4010-G50Y

50603
Chrome Oxide Green
NCS 5040-G30Y

50606
Green Umber
NCS 8010-G90Y

50349
Verona Brown
NCS 8005-Y20R

50154
Houghton Brown
NCS 7010-Y10R

50010
Chocolate
NCS 7020-Y70R

50014
Brick Red
NCS 4550-Y80R

50052
Iron Primer
NCS 5040-Y80R

50114
Old Red
NCS 6030-Y80R

50239
Old Rose
NCS 3020-Y90R

50238
Old Blue
NCS 7020-B

50105
Linseed Blue
NCS 4020-B10G

50202
Ice Blue
NCS 1005-B50GB

50220
Graphite Grey
NCS 7500-N

50006
Black
NCS 9000-N

Organic Linus Wallpaint

For all interior surfaces. Fire safe and very durable.

50312
White
NCS 0502-Y

50322
Grey Light
NCS 1502-G50Y

50320
Lime Three Green
NCS 2010-G80Y

50318
Linseed Blue
NCS 2010-B

50329
Barley White
NCS 0907-Y10R

50324
Mocha Beige
NCS 2005-Y20R

Organic Pigmented Wax – Stain. Quick drying

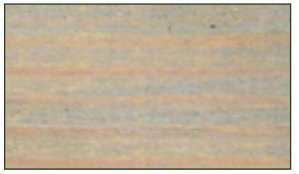
For floor, furniture and wood paneling.



50549 White



50552 Grey



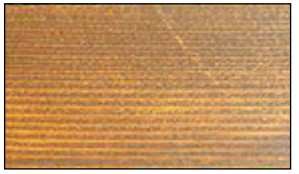
50660 Mole



50558 Black



50020 Naturell



50614 Oak



50555 Brown



50616 Mahogney

Note: Risk of self-ignition in porous material. Burn rags, etc. or soak in water.



Bjäresjö Skola: paint factory, store, shop and classroom



Painting windows and windowsills

ALLBÄCK LINOLJEPRODUKTER AB
Bjäresjö Skola
Ö. Balkåkravägen 18
271 91 Ystad, Sweden
Tel +46 (0)411 602 02
E-mail: allback@allbackpaint.com
www.allbackpaint.com

Retailers

On our website you will find:

References and Inspiration
Instructions, safety data sheets, emission tests, statements from authorities and articles.

Ystad-Tryck AB, tfn 0411-786 50

SAFETY DATA SHEET

Issue date: 21 Sep. 2012
Supersedes: 10 Feb. 2010

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier	Linseed Oil Paint
1.2 Relevant identified uses of the substance or mixture and uses advised against	For outdoor and indoor painting. For painting on wood, concrete, wallpaper and other materials. Sector Use - SU: SU19 Building and construction work SU20 Health services SU21 Private households (= general public = consumers) SU22 Professional uses: Public domain Chemical Product Category: PC9a Coatings and paints Process categories [PROC]: PROC10 Roller application or brushing Environmental Release Categories: ERC 8C Wide dispersive indoor use resulting in inclusion into or onto a matrix (paint) ERC 8F Wide dispersive outdoor use resulting in inclusion into or onto a matrix (paint)
1.3 Details of the supplier of the safety data sheet	
Supplier/Importer EU	Allbäck Linoljeprodukter AB
Address	Östra Balkåkravägen 18 SE-271 91 Ystad Sweden
Telephone number	+46-411-606 02
Fax	+46-411-602 41
Contact person	Sonja Allbäck
e-post	allback@allbackpaint.com
1.4 Emergency telephone number	24 hours service is available at NHS Direct in UK: Phone 0845 46 47 or call 112 or 999 See. www.nhsdirect.nhs.uk
MSDS issued by	Ann Martens, Ramböll Sverige AB, +46 (0)10-615 54 47

Section 2: Hazards identification

2.1 Classification of the substance or mixture
Not classified as hazardous for health or environment.

2.2 Label elements
No hazard label required.
Other label required according to DSD
Interior and exterior minimal build woodstains, category f, VOC < 38 g/l. Limit Phase II, from 2010.
"Safety data sheet for professional users available upon request"

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2.3 Other hazards

Risk for spontaneous combustion if the linseed oil is absorbed by porous organic material (cotton waste or rag). This oxidation, which give rise to heat can happen even at room temperature, but raised temperature increases the risk.

Section 3: Composition / information on ingredients

3.1 Substances

3.2 Mixtures

EC-no	CAS-no	Name of component	Conc. wt/wt	Classi-fication	Com
232-278-6	8001-26-1	Linseed oil	100 %	-	-
240-085-3	15956-58-8	2-Ethylhexanoic acid, manganese salt	0,07 mg/litre paint	CLP: Skin Irrit 2, H315 DSD: Xi; R38	
236-675-5	13463-67-7 REACH-reg nr. 01-2119489379-17-0021 och 01-2119489379-17-0022	Titanium dioxide	0-30 %. Varies with the colour. See below.		WEL
215-279-6	1317-65-3	Chalk (Calcium carbonate)	15-30 % Varies with the colour		WEL
		Different colours			
236-675-5	13463-67-7	White Titanium dioxide (no extra pigment)	27-30 % < 1% Iron oxide		WEL
236-675-5	13463-67-7	Old White Titanium dioxide Iron oxide	27-30 % < 1% Iron oxide		WEL
236-675-5	13463-67-7	Vintage Titanium dioxide Iron oxide	25-30 % < 1 % Iron oxide		WEL
236-675-5	13463-67-7	Sea Mist Titanium dioxide Iron oxide	25-30 % < 1 % Iron oxide		WEL
236-675-5	13463-67-7 20344-49-4 1317-61-9	Parchment Titanium dioxide Iron oxide (FeOOH) Iron oxide (Fe3O4)	25-30 % < 1 % Iron oxide		WEL
236-675-5	13463-67-7	Custard Titanium dioxide Iron oxide (FeOOH)			WEL

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236-675-5	13463-67-7	Barley White Titanium dioxide Iron oxide	25-30 % < 1 % Iron oxide		WEL
236-675-5 243-746-4	13463-67-7 20344-49-4	Buttermilk Titanium dioxide Iron oxide (FeOOH)	25-30 % 1-3 % Iron oxide		WEL
236-675-5 215-277-5 215-277-5	13463-67-7 1317-61-9 1308-38-9 REACH-nr 01-2119433951-39	Oyster Green Titanium dioxide Iron oxide (Fe3O4) Chrome (III) oxide	25-30 % 1% Iron oxide 1 % Chromium oxide		WEL WEL
236-675-5 215-168-2 215-277-5	13463-67-7 1309-37-1 1317-61-9	Houghton Brown Titanium dioxide Iron oxide (Fe 2O3) Iron oxide (Fe3O4)	1-4% 5-12 % Iron oxide 15-25 % Iron oxide		WEL WEL
236-675-5 243-746-4 215-277-5	13463-67-7 20344-49-4 1317-61-9	Silver Grey Titanium dioxide Iron oxide (FeOOH) Iron oxide (Fe3O4)	25-30 % 1 % Iron oxide 1 % Iron oxide		WEL
243-746-4	20344-49-4	Old Gold Iron oxide (FeOOH)	18-25 % Iron oxide		
215-277-5 215-160-9	1317-61-9 1308-38-9 REACH-no 01-2119433951-39	Sprauce Green Iron oxide (FeOOH) Chromium (III) oxide	15-20 % Iron oxide		WEL
215-160-9	1308-38-9 REACH-no 01-2119433951-39	Chrome Oxide Green Chromium (III) oxide	25 % Chromium oxide		WEL
236-675-5 243-746-4 215-277-5 215-160-9	13463-67-7 20344-49-4 1317-61-9 1308-38-9 REACH-no 01-2119433951-39	Lichen Titanium dioxide Iron oxide (Fe OOH) Iron oxide (Fe3O4) Chromium (III) oxide	20-25 % Titanium dioxide 1-3 & Iron oxide (Fe00H) 1-4 & Iron oxide (Fe3O4) 5-8 % Chromium (III) oxide		WEL WEL
309-928-3	101357-30-6	Ultramarine Blue Silicic acid, aluminum sodium salt,	20-25 % Ultra marine blue		

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		sulfurized			
247-304-1 309-928-3 215-160-9	25869-00-5 101357-30- 61308-38-9 1308-38-9 REACH-no 01- 2119433951- 39 1308-38-9	Linseed Blue Titanium dioxide Silicic acid, aluminum sodium salt, sulfurized Chromium oxide	15-20 % Titanium dioxide 7 % Ultramarine blue 3 % Chromium oxide		WEL WEL
309-928-3 243-746-4 215-277-5	101357-30-6 20344-49-4 1317-61-9	Midnight Blue Silicic acid, aluminum sodium salt, sulfurized Iron oxide (FeOOH) Iron oxide (Fe3O4)	17-20 % Ultramarine blue 1 % iron oxide 1-2 % Iron oxide		
309-928-3 243-746-4 215-277-5	101357-30-6 20344-49-4 1317-61-9	Old Blue Silicic acid, aluminum sodium salt, sulfurized Iron oxide (FeOOH) Iron oxide (Fe3O4)	11-14 % Ultramarine blue < 1 % iron oxide 1-2 % Iron oxide		
247-304-1 309-928-3 215-277-5	25869-00-5 101357-30-6 1317-61-9	Ice Blue Titanium dioxide Silicic acid, aluminum sodium salt, sulfurized Iron oxide (Fe3O4)	15-290 % Titanium dioxid 17-20 % Ultramarine blue < 1 % iron oxide		
215-277-5 215-160-9	1317-61-9 1308-38-9 REACH-nr 01- 2119433951- 39	Holkham green Iron oxide (Fe3O4) Chromium (III) oxide	10-15 % iron oxide 20-30 % Chromium oxide		WEL
215-168-2	1309-37-1	Iron primer Iron oxide (Fe2O3)	35-45 % Iron oxide		WEL
215-168-2	1309-37-1	Brick red Iron oxide (Fe2O3)	30-35 % Iron oxide		WEL
215-168-2 215-277-5 309-928-3	1309-37-1 1317-61-9 101357-30-6	Old red Iron oxide (Fe2O3) Iron oxide (Fe3O4) Silicic acid, aluminum sodium salt, sulfurized	20-24 % Iron oxide 7-10 % Iron oxide 1-2 % Ultramarin blue		WEL
		Chocolate			

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215-168-2 215-277-5	1309-37-1 1317-61-9	Iron oxide (Fe2O3) Iron oxide (Fe3O4) (Mixture of these iron oxides, the supplier does not give the exact content)	30-40 % Iron oxides		WEL
		Verona brown Iron oxide (Fe2O3) Iron oxide (Fe3O4) (Mixture of these iron oxides, the supplier does not give the exact content)	30-40 % Iron oxides		
243-746-4	20344-49-4	Antique Gold Iron oxide (FeOOH)			
215-277-5	1317-61-9	Black Iron oxide (Fe3O4)	40-45 % Iron oxide		
236-675-5 215-168-2 243-746-4 215-277-5	13463-67-7 1309-37-1 20344-49-4 1317-61-9	Old rose Titanium dioxide Iron oxide (Fe 2O3) Iron oxide (FeOOH) Iron oxide (Fe3O4)	10 % Titanium dioxide 10-14 % 1 % 1%		WEL WEL
243-746-4 215-277-5	20344-49-4 1317-61-9	Green Umber Iron oxide (FeOOH) Iron oxide (Fe3O4)	17-20 % (FeOOH) 10-13 % (Fe3O4)		
236-675-5 215-168-2 215-277-5	13463-67-7 1309-37-1 1317-61-9	Graphite Grey Titanium dioxide Iron oxide (Fe 2O3) Iron oxide (Fe3O4) (The supplier does not give the exact content)	5 % Titanium dioxide 25-35 % Iron oxides		WEL WEL
		Other colours are mixtures of the above colours			

Explanation of abbreviations:
CAS-nr. = Chemical Abstracts Service; EU-nr (Einecs- or Elincsnumber) = European Inventory of Existing Commercial Chemical Substances or European LIst of Notified Chemical Substances, DSD = Dangerous Substance Directive. CLP = Regulation Classification and Labelling of Packages.
Content specified as; %, %wt/wt, %vol/wt, %vol/vol, mg/m^3, ppb, ppm, wt%, vol%.
WEL = The product have a workplace exposure limit, PBT = The product is declared since it 's a PBT- or a vPvB-substance.

Comments: Linseed oil contains mainly natural triglycerides from oleic, linoleic, cetylic acid, linolenic acid and stearic acid. CAS 8554-56-3 is also possible for the product. The product contains 0.01-0.1 % quartz that is naturally present in chalk. The amount of respirable quartz is very low. Ultramarine blue is a synesthetic variant of the natural pigment Lapis lazuli.

For risk phrases in plain text, see section 16.

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Section 4: First aid measures

4.1 Description of first aid measures	
Inhalation	Not relevant, except when spraying the product. If irritation occurs, move to fresh air and rest.
Skin contact	Wash the skin with water and linseed soap.
Eye contact	Remove contact lenses. Rinse the eyes for a couple of minutes. If symptoms persist, seek a physician.
Ingestion	Drink copious amounts of milk. The product is a laxative in large amounts, but no risk for intoxication.
4.2 Most important symptoms and effects, both acute and delayed	
Inhalation	May cause some transient irritation to the respiratory tract.
Skin contact	Has no effect on skin.
Eye contact	Provides transient mild irritation.
Ingestion	Laxative.
4.3. Indication of any immediate medical attention and special treatment needed	Access to water for rinsing eyes at the working place.

Section 5: Firefighting measures

5.1 Extinguishing media a. Recommended Extinguishing media b. Not Recommended Extinguishing media	a. Extinguish e.g. with foam, carbon dioxide, powder or water spray depending on what is burning b. Foam containing substances that are harmful for the environment, i.e. Perfluoro octane sulfonate (PFOS) and Nonyl ethoxylate
5.2 Special hazards arising from the substance or mixture	Can self-ignite at 343 ºC. Can oxidize in rags and other porous material and cause increased heating of the material until it ignites.
5.3 Advise for firefighters	Avoid inhaling of smoke fumes. Wear self-contained breathing apparatus for fire fighting if necessary. Cool fire exposed surfaces.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	
6.1.1. For non-emergency personnel	Wash skin or contaminated clothes with water.
6.1.2 For emergency responders	Wash with water.
6.2 Environment precautions	Prevent discharge to the sewage system.

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6.3 Methods and material for containment and cleaning up 6.3.1. Surrounding embankment /sealing 6.3.2 Recommended cleaning up measures 6.3.3 Non-recommended measures	Make embankments with sand or other inert absorbent and collect. Small amounts can be washed away with water. The product is easily biodegradable in nature.
6.4 Reference to other sections	For personal protection see section 8. For disposal of waste, see section 13.

Section 7: Handling and storage

7.1 Precaution for safe handling	Avoid spills and prevent large quantities of the product to reach sewage system or surface water. Avoid eating, drinking and smoking in the working area. Wash hands after using the product. Remove contaminated clothing before meals are taken
7.2 Condition for safe storage, including any incompatibilities	Store out of reach of children and away from food.
7.3 Specific end use(s)	No specific end uses.

Section 8: Exposure controls/personal protection

8.1 Control parameters
National occupational exposure limits values, EH 40, 2005 with updates

CAS-nr	Substance name	WEL 8 h	WEL 5 min	WEL 15 min
1309-37-1	Iron oxide fume (as Fe)	5 mg/m^3		10 mg/m^3
13463-67-7	Titanium dioxide total inhalable respirable	 10 mg/m^3 4 mg/m^3		
1317-65-3	Calcium carbonate inhalable dust respirable	 10 mg/m^3 4 mg/m^3		
	Chromium (III) compounds (as Cr)	0.5 mg/m^3		

WEL=Workplace Exposure Limit

PNEC and DNEL/DMEL not established for linseed oil.
Values below from REACH registration of titanium dioxide.

CAS-no	Substance	PNEC (type of	DN(M)EL (route of exposure)	Expo- sure

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		environment)		scen-ario annex
13463-67-7	Titanium dioxid	PNEC (aqua freshwater) 0,127 mg/L PNEC (aqua marine water) 1 mg/L PNEC aqua (intermittent releases) 0,61 mg/L PNEC STP 100 mg/L PNEC sediment (fresh water) 1000 mg/kg Sediment dw PNEC sediment (marine water) 100 mg/kg sediment Dd PNEC soil 100 mg/kg dw	Workers Longtime exposure local effect DNEL Inhalation 10 mg/m³ Consumers Longtime exposure systemic effect Oral DNEL 700 mg/kg bodyweight/day For other DNEL/DMEL data is missing	Saknas

Biological limit values	None
Recommended surveillance procedure	None

8.2 Exposure controls

8.2.1 Recommended technical control measures	None
8.2.2 Individual protection measures, e.g. personal protection equipment	
Eye/face protection	None. When spraying the product, use safety goggles.
Skin protection i) Hand protection (material, thickness, breakthrough time) ii) Other protection	i) At prolonged contact with the product use gloves e.g. PVC, nitrile or butyl. Always use gloves when painting with colour containing chromium. Breakthrough is not known, but probably > 8 hrs. ii) Normal working clothes. No special protection
Respiratory protection	If spraying the product and a hazard to surpass any

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	occupational exposure value use a half mask with particle filter P2.
8.2.3 Environmental exposure limits	Avoid large leakage to surface water or sewage system

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance/Form /State	Liquid
Odour	Characteristic linseed oil.
Melting point/freezing point	Appr. -19 ºC
Initial boiling point and boiling range	Appr. 316 ºC
Flash point	216 ºC
Evaporation rate	Not determined
Self ignite temperature	343 ºC
Upper/lower flammability or explosive limits	Not determined
Vapour pressure	Not determined
Vapour density	Not determined
Relative density	1.3-1.7 kg/l (depending on colour)
Solubility	Linseed oil will only emulsify in water. Low water solubility <1 g/l. The product is partly soluble in several solvents, but it is not recommended to mix with organic solvents.
Partition coefficient n-octanol/water	Not determined
Decomposition temperature	Not determined
Viscosity	Not determined
Explosive properties	None
Oxidizing properties	None
VOC content	< 18 g/l

9.2 Other information

Emission Factor, Volatile organic compounds, TVOC	64 µg/(m^2xh) after 4 hours? drying time of linseed oil paint (white paint), 18 µg/(m^2xh) after 26 week drying time.

Section 10: Stability and reactivity

10.1 Reactivity	The product is not reactive during normal handling and storage conditions.
10.2 Chemical stability	Stable at normal storing conditions
10.3 Possibility of hazardous reactions	None
10.4 Conditions to avoid	Do not store above normal room temperature.
10.5 Incompatible materials	Strong acids, bases and oxidizing agents.
10.6 Hazardous decomposition	None except for colours containing ultramarine pigment.

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products	This pigment can emit hydrogen sulphide in contact with acids. Chrome (III) oxide can transform to chrome (VI) when heated. Chrome (VI) is a strong sensitizer and carcinogenic.

Section 11: Toxicological information

Substances

11.1 Information on toxicological effects

a) Acute toxicity

Short term exposure

Linseed oil LD50, rat > 15000 mg/kg body weight.

Ingestion: The product is probably a mild laxative and ingestion of small amounts will not give any symptoms.

Inhalation: Not relevant. Only a risk when spraying the product. The product could in this case cause minor irritation to respiratory tracts and ethanol in the product can affect the central nervous system.

Eye contact: Could cause mild transient irritation if contact with the eyes

Skin contact: Gives no effect on the skin.

Long term exposure:

Ingestion: No data, but the product is probably laxative.

Inhalation: Only a risk when spraying the product. The product could in this case cause minor irritation to respiratory tracts and ethanol in the product can affect the central nervous system. The product consumes oxygen when drying and if insufficient ventilation this could cause a headache.

Eye contact: Repeated exposure may cause irritation to the eyes, but will probably not give any remaining effect on the eye.

Skin contact: Repeated contact might dry the skin and cause irritation or atopic eczema, but during normal use the risk is low.

b) Skin corrosion/irritation: The product i not corrosive to the skin.

c) Serious eye damage/irritation:

The product will not give serious eye damage or eye irritation.

d) Respiratory or skin sensitisation: The product is not sensitizing. There is no known sensitizing effect of linseed oil, but no data is found.

e) Germ cell mutagenicity: No known effects.

f) Carcinogenicity: No known effects.

g) Reproductive toxicity: No known effects.

h) STOT-single exposure No known effects.

i) STOT-repeated exposures No known effects.

j) Aspiration hazard (No known effects.

k) Other information -

Section 12: Ecological information

12.1 Toxicity

Acute toxicity:

Linseed oil has probably low toxicity for aquatic organisms.

Long term toxicity: The product will probably not have any adverse long term effect for the aquatic environment , but data is lacking.

Terrestrial organisms: The product is probably not harmful for terrestrial organism, but data is lacking.

Plants: The product is probably relative harmless for plants, but data is lacking.

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Effects on micro-organisms living in wastewater treatment plants
The product has no known effect on microorganism living in wastewater treatment plants.

12.2 Persistence and degradability
The product is probably easily degradable, but data is lacking.

12.3 Bioaccumulative potential
The product will not bioaccumulate.

12.4 Mobility in soil
The product is water soluble but probably easily degradable and thus the mobility in soil will not be so high.

12.5 Results of PBT and vPvB assessment
The product does not contain any PBT or vPvB substance.

12.6 Other adverse effects
None known.

Section 13: Disposal consideration

13.1 Waste treatment methods	a) Emptied plastic package are sorted as hard plastic. The packaging material consists of polypropylene. The product can be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Empty dry metal canes can be stored as metal. b) There are no physical/chemical properties that may affect the waste treatment solutions. c) Larger residues should not be released to the sewage system. No special security measures concerning waste treatment methods are needed.
Waste codes (EWC)	Depends where the waste is produced, but suitable codes are 02 03 03, 20 01 28 or 08 01 14
The product is classified as hazardous waste	No.
Waste codes (EWC) for the container	Suitable codes for the packages are 15 01 04, 15 01 07, 20 01 40 or 20 01 02.
A not thoroughly cleaned container is considered dangerous waste	No
Other information	See section 8 for personal protection equipment.

Section 14: Transport information

General	Not classified as hazardous goods
14.1 UN number	-
14.2 UN Proper Shipping Name	-
14.3 Transport hazard class(es)	-
14.4 Packing group	-
14.5 Environmental hazards	-

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14.6 Special precautions for users	-
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	The product is not transported in bulk, but if it will happen in the future this product is listed in Annex II of the Marpol convention. Vegetable oils floating on water is also listed as IMO category 2. Vegetable oils pollution category Y, ship type 2.

Section 15: Regulatory information

15.1 Safety. health, and environmental regulations/legislation specific for the substance or mixture
No relevant.
15.2 Chemical safety assessment
Chemical safety assessment is not made for linseed oil as it is exempted from registration according to REACH.

Section 16: Other information

This MSDS is changed in the following sections: Section 3: New CAS number and classification for the manganese salt. Update of the pigment content. Changes according to the new Annex II of the REACH regulation. PNEC included in section 8.

Hazard and Precautionary statements from section 2 and 3 in plain text (CLP):
Skin Irrit 2 = Skin corrosion/irritation, Category 2;
H315 Causes skin irritation

Risk and Safety phrases from section 2 and 3 in plain text DSD 67/548/EEC:
Xi = Irritant
R38 Irritating to skin.

VOC is determined according to ISO 11890-2. The volatile VOC will probably remain in the colour due to cross-binding reactions. This has been shown in emission measurements during painting with linseed oil paint.

Sources for data in this MSDS

- Prevent Database Chemical substances (http://kemi.prevent.se/)
- Toxnet, http://toxnet.nlm.nih.gov/
- ECHA, Guidance on information requirements and chemical safety assessment: Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system.
- ECHA data base registered substances. Titanium dioxide.
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 93 (2010) Carbon black, Titanium Dioxide and Talc. (452 p)

Other information:
Linseed oil is exempted from registration according to REACH Annex V.
See regulation EC 987/2008.

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The safety data sheet is based on the REACH regulation EC 1907/2006 and the regulation EU 453/2010. Classification according to both the CLP regulation EC 1272/2008 and directives 67/548/EEC and 1999/45/EC. Names in section 3 are given either according to harmonised classified substances in Annex VI, CLP regulation EC/1272/2008, IUPAC name or other common used named chosen by the supplier. See article 18 in the CLP regulation.

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SAFETY DATA SHEET

Issue date: 24 Sep. 2012
Supersedes: 10 Feb. 2010

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier	Linseed Oil
REACH registry number	Exempted from registration
CAS number	8001-26-1
EC number	232-278-6
1.2 Relevant identified uses of the substance or mixture and uses advised against	For diluting linseed oil paint or surface treatment of painted or unpainted surfaces. This MSDS is for both raw and boiled linseed oil Sector Use - SU: SU19 Building and construction work SU20 Health services SU21 Private households (= general public = consumers) SU22 Professional uses: Public domain Chemical Product Category: PC9a Coatings and paints Process categories [PROC]: PROC10 Roller application or brushing Environmental Release Categories: ERC 8C Wide dispersive indoor use resulting in inclusion into or onto a matrix (paint) ERC 8F Wide dispersive outdoor use resulting in inclusion into or onto a matrix (paint)
1.3 Details of the supplier of the safety data sheet	
Supplier/Importer EU	Allbäck Linoljeprodukter AB
Address	Östra Balkåkravägen 18 SE-271 91 Ystad Sweden
Telephone number	+46-411-606 02
Fax	+46-411-602 41
Contact person	Sonja Allbäck
e-post	allback@allbackpaint.com
1.4 Emergency telephone number	24 hours service is available at NHS Direct in UK: Phone 0845 46 47 or call 112 or 999 See. www.nhsdirect.nhs.uk
MSDS issued by	Ann Martens, Ramböll Sverige AB, +46 (0)10-615 54 47

Section 2: Hazards identification

2.1 Classification of the substance or mixture
Not classified as hazardous for health or environment.

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2.2 Label elements
No hazard label required.

Other label required according to DSD
“Interior and exterior minimal build woodstains, category f, VOC < 38 g/l. Limit Phase II, from 2010.” Eller?

"Safety data sheet for professional users available upon request”

2.3 Other hazards
Risk for spontaneous combustion if the linseed oil is absorbed by porous organic material (cotton waste or rag). This oxidation, which give rise to heat, can happen even at room temperature, but raised temperature increases the risk.

Section 3: Composition/information on ingredients

3.1 Substances

3.2 Mixtures

EC-no	CAS-no	Reg-no REACH	Name of component	Conc. wt/wt	Classification	Com.
232-278-6	8001-26-1	See section 16	Linseed oil	100 %	-	-
240-085-3	15956-58-8	Not known	2-Ethylhexanoic acid, manganese salt (only in boiled linseed oil)	0,07 mg/litre paint	CLP: Skin Irrit 2, H315 DSD: Xi; R38	

Explanation of abbreviations:
CAS-nr. = Chemical Abstracts Service; EU-nr (Einecs- or Elincsnumber) = European Inventory of Existing Commercial Chemical Substances or European LIst of Notified Chemical Substances, DSD = Dangerous Substance Directive. CLP = Regulation Classification and Labelling of Packages.
Content specified as; %, %wt/wt, %vol/wt, %vol/vol, mg/m^3, ppb, ppm, wt%, vol%.
WEL = The product have a workplace exposure limit, PBT = The product is declared since it 's a PBT- or a vPvB-substance.

Comments: Linseed oil contains mainly natural triglycerides from oleic, linoleic, cetylic acid, linolenic acid and stearic acid. CAS 8554-56-3 is also possible for the product.

For risk phrases in plain text, see section 16.

Section 4: First aid measures

4.1 Description of first aid measures	
Inhalation	Not relevant, except when spraying the product. If irritation occurs, move to fresh air and rest.
Skin contact	Wash the skin with water and linseed soap.
Eye contact	Remove contact lenses. Rinse the eyes for a couple of minutes. If symptoms persist, seek a physician.
Ingestion	Drink copious amounts of milk. The product is a laxative

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	in large amounts, but no risk for intoxication.
4.2 Most important symptoms and effects, both acute and delayed	
Inhalation	May cause some transient irritation to the respiratory tract.
Skin contact	Has no effect on skin.
Eye contact	Can give transient mild irritation.
Ingestion	Laxative.
4.3. Indication of any immediate medical attention and special treatment needed	Access to water for rinsing eyes at the working place.

Section 5: Firefighting measures

5.1 Extinguishing media a. Recommended Extinguishing media b. Not Recommended Extinguishing media	 a. Extinguish with foam, carbon dioxide, powder or water spray depending on what is burning b. Foam containing substances that are harmful for the environment, i.e. Perfluoro octane sulfonate (PFOS) and Nonyl ethoxylate
5.2 Special hazards arising from the substance or mixture	None
5.3 Advise for firefighters	Wear self-contained breathing apparatus for fire fighting if necessary.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	
6.1.1. For non-emergency personnel	For personal protection equipment see section 8. Wash skin or contaminated clothes with water.
6.1.2 For emergency responders	Wash with water.
6.2 Environment precautions	Prevent discharge to the sewage system.
6.3 Methods and material for containment and cleaning up 6.3.1. Surrounding embankment /sealing 6.3.2 Recommended cleaning up measures 6.3.3 Non-recommended measures	Make embankments with sand or other inert absorbent and collect. Small amounts can be washed away with water. The product is easily biodegradable in nature.
6.4 Reference to other sections	For personal protection see section 8. For disposal of waste, see section 13.

Section 7: Handling and storage

7.1 Precaution for safe handling	Avoid spills and prevent large quantities of the product to reach sewage system or surface water. Avoid eating,

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	drinking and smoking in the working area. Wash hands after using the product. Remove contaminated clothing before meals.
7.2 Condition for safe storage, including any incompatibilities	Store the product at room temperature. Store out of reach of children and away from food.
7.3 Specific end use(s)	No specific end uses.

Section 8: Exposure controls/personal protection

8.1 Control parameters
National occupational exposure limits values, EH 40, 2005 with updates
No workplace exposure values for lined oil.

PNEC and DNEL/DMEL not established for linseed oil.

Biological limit values	None
Recommended surveillance procedure	None

8.2 Exposure controls

8.2.1 Recommended technical control measures	None
8.2.2 Individual protection measures, e.g. personal protection equipment	
Eye/face protection	None. When spraying the product, use safety goggles.
Skin protection i) Hand protection (material, thickness, breakthrough time) ii) Other protection	i) None. ii) Normal working clothes. No special protection
Respiratory protection	If spraying the product, use a half mask with particle filter P2.
8.2.3 Environmental exposure limits	Avoid large leakage to surface water or sewage system

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance/Form /State	Liquid
Odour	Characteristic linseed oil.
pH	8.5-9
Melting point/freezing point	Appr. -19 ºC
Initial boiling point and boiling range	Appr. 316 ºC
Flash point	206 ºC
Evaporation rate	Not determined
Flammability	Not determined
Sel ignition temperature	343 ºC
Upper/lower flammability or	Not determined

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explosive limits	
Vapour pressure	Not determined
Vapour density	Not determined
Relative density	0.99 kg/l
Solubility	Linseed oil will only emulsify in water. Low water solubility <1 g/l. The product is partly soluble in several solvents, but it is not recommended to mix with organic solvents.
Partition coefficient n-octanol/water	Not determined
Decomposition temperature	Not determined
Viscosity	Not determined
Explosive properties	None
Oxidizing properties	None
VOC content	< 38 g/l

9.2 Other information

Emission Factor, Volatile organic compounds, TVOC	64 µg/(m^2xh) after 4 drying time of linseed oil paint (pure linseed oil is not tested), 18 µg/(m^2xh) after 26 week drying time.

Section 10: Stability and reactivity

10.1 Reactivity	The product is not reactive during normal handling and storage conditions.
10.2 Chemical stability	Stable at normal storing conditions
10.3 Possibility of hazardous reactions	None
10.4 Conditions to avoid	Do not store above normal room temperature.
10.5 Incompatible materials	Strong acids, bases and oxidizing agents.
10.6 Hazardous decomposition products	None

Section 11: Toxicological information

Substances

11.1 Information on toxicological effects

a) Acute toxicity

Short term exposureLinseed oil LD50, rat > 15000 mg/kg body weight.

Ingestion: The product is probably a mild laxative and ingestion of small amounts will not give any symptoms.

Inhalation: Not relevant. Only a risk when spraying the product. The product could in this case cause minor irritation to respiratory tracts.

Eye contact: Could cause mild transient irritation if contact with the eyes

Skin contact: Gives no effect on the skin

Long term exposure:

Ingestion: No known effect.

Inhalation: If spraying the product mild irritation of respiratory tracts.

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Eye contact: Repeated exposure may cause irritation to the eyes, but will probably not give any remaining effect on the eye.
Skin contact: Repeated contact might dry the skin and cause irritation or atopic eczema, but during normal use the risk is low.
b) Skin corrosion/irritation: The product i not corrosive to the skin.
c) Serious eye damage/irritation:
The product will not give serious eye damage or eye irritation.
d) Respiratory or skin sensitisation: The product is not sensitizing. There is no known sensitizing effect of linseed oil, but no data is found.
e) Germ cell mutagenicity: No known effects.
f) Carcinogenicity: No known effects.
g) Reproductive toxicity: No known effects.
h) STOT-single exposure No known effects.
i) STOT-repeated exposures No known effects.
j) Aspiration hazard No known effects.
k) Other information -

Section 12: Ecological information

12.1 Toxicity
Acute toxicity:
Linseed oil has probably low toxicity for aquatic organisms.
Long term toxicity: The product will probably not have any adverse long term effect for the aquatic environment, but data is lacking.
Terrestrial organisms: The product is probably not harmful for terrestrial organism, but data is lacking.
Plants: The product is probably relatively harmless for plants, but data is lacking.
Effects on micro-organisms living in wastewater treatment plants
The product has no known effect on microorganism living in wastewater treatment plants.

12.2 Persistence and degradability
The product is probably easily degradable, but data is lacking.

12.3 Bioaccumulative potential
The product will not bioaccumulate.

12.4 Mobility in soil
The product is water soluble but probably easily degradable and thus the mobility in soil will not be so high.

12.5 Results of PBT and vPvB assessment
The product does not contain any PBT or vPvB substance.

12.6 Other adverse effects
None known.

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Section 13: Disposal consideration

13.1 Waste treatment methods	a) Emptied plastic package are sorted as hard plastic. The packaging material consists of polypropylene. The product could be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. b) There are no physical/chemical properties that may affect the waste treatment solutions. c) Larger residues should not be released to the sewage system. No special security measures concerning waste treatment methods are needed.
Waste codes (EWC)	Depends where the waste is produced, but suitable codes are 07 01 99 or 08 01 17.
The product is classified as hazardous waste	No.
Waste codes (EWC) for the container	A suitable code for the package is 20 01 39.
A not thoroughly cleaned container is considered dangerous waste	No
Other information	See section 8 for personal protection during disposal of waste.

Section 14: Transport information

General	Not classified as hazardous goods
14.1 UN number	-
14.2 UN Proper Shipping Name	-
14.3 Transport hazard class(es)	-
14.4 Packing group	-
14.5 Environmental hazards	-
14.6 Special precautions for users	-
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	The product is not transported in bulk, but if it will happen in the future this product is listed in Annex II of the Marpol convention. Vegetable oil floating on water is also listed as IMO category 2. Vegetable oils pollution category Y, ship type 2.

Section 15: Regulatory information

15.1 Safety. health, and environmental regulations/legislation specific for the substance or mixture
No relevant.

15.2 Chemical safety assessment
Chemical safety assessment is not made for linseed oil as it is exempted from registration according to REACH.

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Section 16: Other information

This MSDS is changed in the following sections: Section 3: New CAS number and classification for the manganese salt. Skriv att bladet är upprättat utifrån CLP och som en följd finns det ändringar under de flesta avsnitt.

Hazard and Precautionary statements from section 2 and 3 in plain text (CLP):
Skin Irrit 2 = Skin corrosion/irritation, Category 2
H315 Causes skin irritation

Risk and Safety phrases from section 2 and 3 in plain text DSD 67/548/EEC:
Xi = Irritant
R38 Irritating to skin.

VOC is determined according to ISO 11890-2. The volatile VOC will probably remain in the colour due to cross-binding reactions. This has been shown in emission measurements during painting with linseed oil paint.

Sources for data in this MSDS

- Prevent Database Chemical substances (http://kemi.prevent.se/)
- Toxnet, http://toxnet.nlm.nih.gov/
- ECHA, Guidance on information requirements and chemical safety assessment: Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system.

Other information:
Linseed oil is exempted from registration according to REACH Annex V.
See regulation EC 987/2008.

The safety data sheet is based on the REACH regulation EC 1907/2006 and the regulation EU 453/2010. Classification according to both the CLP regulation EC 1272/2008 and directives 67/548/EEC and 1999/45/EC. Names in section 3 are given either according to harmonised classified substances in Annex VI, CLP regulation EC/1272/2008, IUPAC name or other common used named chosen by the supplier. See article 18 in the CLP regulation.

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Ajax Ammonia all Purpose Cleaner Ready To Use Gallon

Model # CPC 04949



Product Description

Ammonial cleaning power for use on most hard, washable surfaces. NSF/USDA Classifications A4 and C1. Gallon bottle makes 64 gallons of RTU solution.

Ajax® Ammonial™ All Purpose Cleaner Gallon Bottle. Ajax Cleaner can be ordered today and shipped directly to you tomorrow. This Ajax cleaning product is a powerful all purpose cleaner with ammonia to get all your surfaces clean. This all purpose cleaner is a great household cleaning product for any hard, washable surfaces, and with ammonia, it has the strength to cut grease and grime. This Ajax all purpose cleaning product makes 64 ready-to-use gallons out of one single bottle. The economical cleaner is a concentrated solution, perfect for home and janitorial cleaning and a great money saver. Order Ajax® Ammonial™ All Purpose Cleaner now, and have this cleaning product delivered in 2-3 days! CPC04949

- All Purpose Cleaner
- For any hard, washable surface
- Cuts grease and grime
- NSF/USDA Classifications A4 and C1
- Concentrated solution
- Gallon bottle makes 64 gallons of ready-to-use solution
- Gallon Bottle
- 4 Bottles per Case
- Next Day Shipping

MATERIAL SAFETY DATA SHEET

COLGATE-PALMOLIVE
Institutional Products

Ajax® Ammonial All Purpose Cleaner

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ACUTE HEALTH. . . 1
FIRE. 0
REACTIVITY. 0

HMIS HAZARD RATING				
Least=0	Slight=1	Moderate=2	High=3	Extreme= 4

PRODUCT NAME: Ajax® Ammonial All Purpose Cleaner
LABEL CODE: 04949 (1 gallon)
CAS NUMBER: Not applicable - product is a mixture
GENERAL USE: A formulated all-purpose cleaner.

COLGATE-PALMOLIVE COMPANY
Institutional Products Division
191 East Hanover Avenue
Morristown, NJ 07960-3151

For consumer information: Call (800) 432-8226

EMERGENCY TELEPHONE NUMBER: For emergency involving spill, leak, fire, exposure or accident, call CHEMTREC: (800) 424-9300, day or night.

THE PITTSBURGH POISON CENTER HAS BEEN PROVIDED SPECIFIC INFORMATION FOR USE IN MEDICAL EMERGENCIES INVOLVING THIS PRODUCT: CALL COLLECT: (412) 692-5596.

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS (present at a concentration > or = 1%):

Component	CAS #	%	PEL	TLV
None - not applicable				

The following components, present at a concentration > or = 0.1%, are listed as carcinogens or potential carcinogens by either the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA:

Component	CAS #	%	PEL	TLV
None - not applicable				

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:
EYE CONTACT: Causes eye irritation on direct contact.
SKIN CONTACT: May cause skin irritation on prolonged or repeated contact.
INGESTION: May be harmful if swallowed in large amounts.
INHALATION: Overexposure may cause respiratory tract irritation.

4. FIRST AID MEASURES

EYE CONTACT: Flush eye with large amounts of water for 15 minutes. Get medical attention immediately.
SKIN CONTACT: Flush skin with large amounts of water. Get medical attention.
INGESTION: Drink 1-2 glasses of water. Do not induce vomiting. Get medical attention immediately.
INHALATION: Remove victim to fresh air. Get medical attention of symptoms persist.

5. FIRE FIGHTING MEASURES

Flash Point (Method): > 200°F
Extinguishing Media: Water spray, All-purpose dry chemical
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus and protective clothing should be worn when fighting chemical fires. Use water spray to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Cover with inert, absorbent material and remove to disposal container. Spill area may be slippery. Flush with plenty of water.

7. HANDLING AND STORAGE:

Store in a cool dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONTROLS: Avoid eye and skin contact.
PROTECTIVE CLOTHING: The use of safety goggles and protective gloves is recommended for potential exposure to product.
SPECIAL PRECAUTIONS: Keep out of the reach of children.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor: Opaque white liquid.
Specific Gravity: 1.11 ± 0.05
pH: 10.1-7 ± 0.05 (as is)

10. STABILITY AND REACTIVITY

GENERAL: This product is stable. Hazardous polymerization will not occur.
INCOMPATIBLE MATERIALS: Avoid contact with chlorine, acids and strong oxidizing agents. Do not mix with bleach or bleach products.
HAZARDOUS DECOMPOSITION: None known.

11. TOXICOLOGICAL INFORMATION

This product has not been tested as a whole. However, this formula was reviewed by expert toxicologists in the Product Safety Assurance Department of Colgate-Palmolive and is determined to be safe for its intended use. This review has taken into consideration available safety-related information including information on individual ingredients, similar ingredients, similar formulas and potential ingredient interactions. This review is a component of the hazard determination used to prepare the statements in Section 3 of the MSDS.

12. ECOLOGICAL INFORMATION: Not known.

13. DISPOSAL CONSIDERATIONS

Any disposal practice must be in compliance with local, state, and federal laws and regulations (contact local or state government agency for specific rules). Do not dump into sewers, any body of water, or onto the ground.

14. TRANSPORTATION

This product is not regulated as a DOT hazardous material.

15. REGULATORY INFORMATION

RCRA (40 CFR 261, Subpart D): Not Applicable.

CLEAN WATER ACT: Contains ammonium hydroxide which is a Section 311 material.

CLEAN AIR ACT: Not Applicable.

SARA:
Sections 301-304 (Threshold planning quantity – TPQ)
40 CFR 355: Not Applicable.

Section 313 (Toxic chemical release reporting)
40 CFR 372: The following chemicals must be reported under SARA 313: Not Applicable.

CERCLA:
Section 102 (Reportable Quantity – RQ)
40 CFR 302: The RQ for this product to the environment is 14,925 lbs. based on the presence of ammonium hydroxide (6.7%). Releases greater than or equal to 14,925 lbs. must be reported to The National Response Center (NRC) immediately: 800-424-8802.

TSCA Section 8(b) INVENTORY STATUS:
All ingredients in this product are listed on the TSCA Inventory or are not required to be listed on the TSCA Inventory.

NEW JERSEY RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:
This product contains the following components subject to reporting requirements:
Ammonium hydroxide

PENNSYLVANIA HAZARDOUS SUBSTANCE LIST:
This product contains the following components subject to reporting requirements:
Ammonium hydroxide

MASSACHUSETTS SUBSTANCE LIST:
This product contains the following components subject to reporting requirements:
Ammonium hydroxide

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
This product contains the following components subject to reporting requirements: None

CANADA:
Workplace Hazardous Materials Information System (WHMIS)-listed material.
This product contains the following components subject to reporting requirements:
Ammonium hydroxide, sodium carbonate

16. OTHER INFORMATION

Effective Date: August 24, 2001
Supersedes Experimental MSDS May 3, 1999
MSDS Status: Revised All Sections

The information on this sheet is limited to the material identified and is believed by the Colgate-Palmolive Company to be correct based on its knowledge and information as of the date noted. Colgate-Palmolive makes no representation, guarantee or warranty, expressed or implied, as to the accuracy, reliability or completeness of the information and assumes no responsibility for injury, damage or loss resulting from the use of the material.

AURA®

WATERBORNE INTERIOR PAINT

EGGSHELL FINISH 524

Features

- Extreme hide, never more than two coats in any color
- **Color Lock® Technology, no color rub-off**
- Easy clean up
- Excellent touch up
- Provides a mildew resistant coating
- Stains wash off easily
- Self priming
- Easy application

General Description

Aura® Eggshell Finish is part of an innovative paint and colorant system integrating the best technologies to deliver superior durability for any color along with the promise of long lasting beauty. In addition to using 100% acrylic latex, proprietary resins have been incorporated to give the product its extraordinary performance properties.

Recommended For

New or previously painted wallboard, plaster, masonry and wood; primed or previously painted metal; new or coated acoustic ceilings. It is ideal for surfaces where maximum durability is required and lasting color is desired.

Limitations

- Do not apply when air and surface temperatures are below 50° F (10° C)
- Only Gennex® Waterborne Colorants can be added to Aura® Paint

Product Information

Colors:—Standard:

No ready-mixed colors are available.

—Tint Bases:

1X, 2X, 3X, & 4X Tint Bases only with Gennex® Waterborne Colorant.

—Special Colors:

Contact your Benjamin Moore representative.

Certification:

VOC compliant in all regulated areas

Master Painters Institute MPI #44, 44 X-Green, MPI High Performance # 138, 138 X-Green

Class A (0-25) over non-combustible surfaces in accordance with ASTM E-84

Anti-microbial - This product contains agents which inhibit the growth of microbes on the surface of this paint film. This product contains antimicrobial additives that inhibit the growth of mold and mildew on the surface of the paint film.

green promise®

The Green Promise® designation means that this product has been tested by independent third parties and meets or exceeds each standard shown in the first row of the following chart.

LEED®	CHPS (Collaborative for High Performance Schools)	MPI Green Performance™	VOC (in any color)
YES	YES	YES	47 g/L

Products that have the Green Promise® designation also meet or exceed the published chemical restriction and performance criteria included in the standards shown below, based on independent, third-party testing, but have not been certified under any of these standards.

Green Seal™ GS-11 2010	
YES	

Technical Assistance:

Available through your local authorized independent Benjamin Moore® retailer. For the location of the retailer nearest you, call 1-800-826-2623, see www.benjaminmoore.com, or consult your local Yellow Pages.

Technical Data◊		Pastel Base
Vehicle Type		Acrylic & Proprietary Resins
Pigment Type		Titanium Dioxide
Volume Solids		47.2%
Coverage per Gallon at Recommended Film Thickness		350 – 400 Sq. Ft.
Recommended Film Thickness	– Wet – Dry	4.3 mils 2.0 mils
Depending on surface texture and porosity. Be sure to estimate the right amount of paint for the job. This will ensure color uniformity and minimize the disposal of excess paint.		
Dry Time @ 77° F (25° C) @ 50% RH	– To Touch – To Recoat	1 Hour 1 Hour
Painted surfaces can be washed after two weeks. High humidity and cool temperatures will result in longer dry, recoat and service times.		
Dries By		Evaporation, Coalescence
Viscosity		109 ± 3 KU
Flash Point		None
Gloss / Sheen		Eggshell (12-22 @ 85°)
Surface Temperature at Application	– Min. – Max	50° F 90° F
Thin With		See Chart
Clean Up Thinner		Clean Water
Weight Per Gallon		12.2 lbs
Storage Temperature	– Min. – Max	40° F 90° F

Volatile Organic Compounds (VOC)

47 Grams / Liter .39 LBS / Gallon

◊Reported values are for Pastel Base. Contact Benjamin Moore for values of other bases or colors.

Surface Preparation

Surfaces to be painted must be clean, dry, and free of dirt, dust, grease, oil, soap, wax, scaling paint, water soluble materials and mildew. Remove any peeling or scaling paint, and sand these areas to feather edges smooth with adjacent surfaces. Glossy areas should be dulled. Drywall surfaces must be free of sanding dust. Spot prime with Aura® Eggshell Finish Paint before and after filling nail holes, cracks, and other surface imperfections.

New plaster or masonry surfaces must be allowed to cure (30 days) before applying base coat. Cured plaster should be hard, have a slight sheen and maximum pH of 10; soft, porous or powdery plaster indicates improper cure. Never sand a plaster surface; knife off any protrusions and prime plaster before and after applying patching compound. Poured or pre-cast concrete with a very smooth surface should be etched or abraded to promote adhesion, after removing all form release agents and curing compounds. Remove any powder or loose particles.

Difficult Substrates: Benjamin Moore offers a variety of specialty primers for use over difficult substrates such as plaster, bleeding woods, grease stains, crayon markings, hard glossy surfaces, galvanized metal, or other substrates where paint adhesion or stain suppression is a particular problem. Your Benjamin Moore® retailer can recommend the right problem-solving primer for your special needs.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. **LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE**. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Carefully clean up with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Primer/Finish Systems

Aura® Eggshell Finish is self priming on most surfaces. Aura® will act as its own primer, providing the optimal foundation for the subsequent finish coat. On bare substrates two coats are required; previously painted surfaces can be finished with 1 or 2 coats. **Special Note:** For certain deep colors, Aura® Color Foundation must be used to achieve maximum hide and the desired topcoat color. Consult your retailer.

Wood and engineered wood products:
Primer: For non-bleeding woods, use Fresh Start® All-Purpose 100% Acrylic Primer (N023) or 100% Acrylic Superior Primer (046). For bleeding woods such as cedar and redwood, use Fresh Start® All-Purpose Alkyd Primer (024)
Finish: 1 or 2 coats Aura® Eggshell Finish.

Plaster/Wallboard:
Primer/Finish: 1 or 2 coats of Aura® Eggshell Finish.

Rough or Pitted Masonry:
Primer: Super Spec® Latex Block Filler (160) or Super Spec Masonry High Build Block Filler (206).
Finish: 1 or 2 coats of Aura® Eggshell Finish.

Smooth Poured or Precast Concrete:
Primer/Finish: 1 or 2 coats of Aura® Eggshell Finish.

Ferrous Metal (steel & iron):
Primer: Super Spec HP® Acrylic Metal Primer (P04) or Super Spec HP® Alkyd Metal Primer (P06).
Finish: 1 or 2 coats of Aura® Eggshell Finish.

Non-Ferrous Metal (galvanized & aluminum):
All new metal surfaces must be thoroughly cleaned with (P83) Oil & Grease Emulsifier to remove contaminants. New shiny non-ferrous metal surfaces that will be subject to abrasion should be dulled with very fine sandpaper or a synthetic steel wool pad to promote adhesion
Primer: Not required on properly prepared surfaces
Finish: 1 or 2 coats of Aura® Eggshell Finish.

Repaint, All Substrates: Prime bare areas with the primer / finish recommended for the substrate above.

Application

Mixing of Paint: Stir thoroughly before and during use. Use the same brushing techniques as you would for any low-VOC compliant interior coating. Benjamin Moore recommends an extra firm nylon polyester brush for best results.

Aura® offers excellent flow and leveling. Do not over brush in the attempt to smooth out brush marks.

We recommend the Benjamin Moore® Aura® shed-resistant, 3/8" nap roller cover for best results. Aura® dries faster than other acrylic paints, so avoid lap marks by maintaining a wet edge. Roll out vertical sections in 3' to 4' widths.

If your edge begins to dry or you see that you missed a spot and the paint is already setting up, allow it to dry completely before touching up that area.

This product can also be sprayed; refer to the chart below for spray recommendations.

Thinning/Cleanup

Conditioning with Benjamin Moore® 518 Extender may be necessary under certain conditions to adjust open time or spray characteristics. The chart below is for general guidance

	Mild conditions	**Severe conditions**
	Humid (RH> 50%) with no direct sunlight & with little to no wind	Dry (RH<50%), in direct sunlight, or windy conditions
Brush: Nylon / Polyester	No thinning necessary	Add **518 Extender** or **water:** Max of 8 fl. oz. to a gallon of paint **Never add other paints or solvents.**
Roller: 3/8' Aura® Roller Cover		
Spray: Airless Pressure: 1000 -2000 psi Tip: 0.013-0.017		

Cleanup: Wash painting tools in warm soapy water immediately after use. Spray equipment should be given a final rinse with mineral spirits to prevent rusting.

USE COMPLETELY OR DISPOSE OF PROPERLY. Dry, empty containers may be recycled in a can recycling program. **Local disposal requirements vary; consult your sanitation department or state-designated environmental agency on disposal options.**

Environmental, Health & Safety Information

Use only with adequate ventilation. Do not breathe spray mist or sanding dust. Ensure fresh air entry during application and drying. Avoid contact with eyes and prolonged or repeated contact with skin. Avoid exposure to dust and spray mist by wearing a NIOSH approved respirator during application, sanding and clean up. Follow respirator manufacturer's directions for respirator use. Close container after each use. Wash thoroughly after handling.

WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes; for skin, wash thoroughly with soap and water. If symptoms persist, seek medical attention. If you experience difficulty breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

IN CASE OF SPILL – Absorb with inert material and dispose of as specified under **Thinning/Cleanup.**

KEEP OUT OF REACH OF CHILDREN
PROTECT FROM FREEZING

Refer to Material Safety Data Sheet for additional health and safety information.

Benjamin Moore & Co., 101 Paragon Drive, Montvale, NJ 07645 Tel: (201) 573-9600 Fax: (201) 573-9046 www.benjaminmoore.com M72 524 US 082112
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Material Safety Data Sheet

Revision Date: *18-Dec-2012* **Revision Number:** *6*

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **AURA WATERBORNE INTERIOR PAINT EGGSHELL FINISH**
Product Code **524**
Product Class WATER THINNED PAINT
Color All

Manufacturer
Benjamin Moore & Co.
101 Paragon Drive
Montvale, NJ 07645
Phone: 201-573-9600
www.benjaminmoore.com

Emergency Telephone Number(s)
CHEMTREC: 800-424-9300

2. COMPOSITION INFORMATION ON COMPONENTS

Hazardous Components

Chemical Name	CAS-No	Weight % (max)
Titanium dioxide	13463-67-7	30
Nepheline syenite	37244-96-5	5
Silica, amorphous	7631-86-9	5
Kaolin	1332-58-7	5

3. HAZARDS IDENTIFICATION

Emergency Overview

Vapors may be irritating to eyes, nose, throat, and lungs. May cause skin irritation and/or dermatitis.

Appearance liquid **Odor** little or no odor

Potential Health Effects

Principal Routes of Exposure Eye contact, skin contact and inhalation.

Acute Effects

Eyes May cause slight irritation.
Skin Substance may cause slight skin irritation.
Inhalation May cause irritation of respiratory tract.
Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects Repeated contact may cause allergic reactions in very susceptible persons.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions None known

HMIS **Health:** 1 **Flammability:** 0 **Reactivity:** 0 **PPE:** -

HMIS Legend
0 - Minimal Hazard
1 - Slight Hazard
2 - Moderate Hazard
3 - Serious Hazard
4 - Severe Hazard
* - Chronic Hazard
X - Consult your supervisor or S.O.P. for "Special" handling instructions.

Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer, has choosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

4. FIRST AID MEASURES

General Advice No hazards which require special first aid measures.

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Ingestion Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary.

Notes To Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protective Equipment And Precautions For Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific Hazards Arising From The Chemical Closed containers may rupture if exposed to fire or extreme heat.

Sensitivity To Mechanical Impact No

Sensitivity To Static Discharge No

Flash Point Data

Flash Point (°F)	Not applicable
Flash Point (°C)	Not applicable
Flash Point Method	Not applicable

Flammability Limits In Air

Lower Explosion Limit	Not applicable
Upper Explosion Limit	Not applicable

NFPA **Health:** 1 **Flammability:** 0 **Instability:** 0 **Special:** Not Applicable

NFPA Legend
0 - Not Hazardous
1 - Slightly
2 - Moderate
3 - High
4 - Severe

The ratings assigned are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.

Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at www.nfpa.org.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

Environmental Precautions Prevent further leakage or spillage if safe to do so.

Methods For Clean-Up Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Other Information None known

7. HANDLING AND STORAGE

Handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage Keep container tightly closed. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Hazardous Components

Chemical Name	ACGIH	OSHA
Titanium dioxide	10 mg/m^3 - TWA	15 mg/m^3 - TWA total

Nepheline syenite	N/E	5 mg/m^3 - TWA (nuisance dust)
Silica, amorphous	N/E	- (80)/(% SiO2) mg/m^3 TWA 20 mppcf - TWA
Kaolin	2 mg/m^3 - TWA	15 mg/m^3 - TWA total 5 mg/m^3 - TWA

Legend
ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits
OSHA - Occupational Safety & Health Administration Exposure Limits
N/E - Not Established

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.
Skin Protection Protective gloves and impervious clothing
Respiratory Protection In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene Measures Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid
Odor little or no odor
Density (lbs/gal) 9.5 - 12.0
Specific Gravity 1.13 - 1.44
pH Not available
Evaporation Rate Not available
Vapor Pressure Not available
Vapor Density Not available
Wt. % Solids 45 - 65
Vol. % Solids 35 - 50
Wt. % Volatiles 35 - 55
Vol. % Volatiles 50 - 65
VOC Regulatory Limit (g/L) < 50
Boiling Point (°F) 212
Boiling Point (°C) 100
Freezing Point (°F) 32
Freezing Point (°C) 0
Flash Point (°F) Not applicable
Flash Point (°C) Not applicable
Flash Point Method Not applicable
Upper Explosion Limit Not applicable
Lower Explosion Limit Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

Conditions To Avoid Prevent from freezing

Incompatible Materials	No materials to be especially mentioned.
Hazardous Decomposition Products	None under normal use.
Possibility Of Hazardous Reactions	None under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product
No information available

Component

Titanium dioxide
LD50 Oral: > 10000 mg/kg (Rat)
LD50 Dermal: > 10000 mg/m³ (Rabbit)
LC50 Inhalation (Dust): > 6.82 mg/L (Rat, 4 hr.)

Nepheline syenite
Sensitization: No sensitizing effects known.

Silica, amorphous
LD50 Oral: > 5000 mg/kg (Rat)
LD50 Dermal: 2,000 mg/kg (Rabbit)
LC50 Inhalation (Dust): > 2 mg/L

Kaolin
LD50 Oral: > 5000 mg/kg (Rat)

Chronic Toxicity

Carcinogenicity
The information below indicates whether each agency has listed any ingredient as a carcinogen:

Chemical Name	ACGIH	IARC	NTP	OSHA Carcinogen
Titanium dioxide		2B - Possible Human Carcinogen		Listed

- Although IARC has classified titanium dioxide as possibly carcinogenic to humans (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."

Legend
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
NTP - National Toxicity Program
OSHA - Occupational Safety & Health Administration

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Product

Acute Toxicity to Fish
No information available

Acute Toxicity to Aquatic Invertebrates
No information available

Acute Toxicity to Aquatic Plants
No information available

Component

Acute Toxicity to Fish

Titanium dioxide
LC50: >1000 mg/L (Fathead Minnow - 96 hr.)

Acute Toxicity to Aquatic Invertebrates
No information available

Acute Toxicity to Aquatic Plants
No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with federal, state, and local regulations. Dry, empty containers may be recycled in a can recycling program. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO / IATA Not regulated

IMDG / IMO Not regulated

15. REGULATORY INFORMATION

15. REGULATORY INFORMATION

International Inventories

United States TSCA	Yes - All components are listed or exempt.
Canada DSL	No - Not all of the components are listed. One or more component is listed on NDSL.

Federal Regulations

SARA 311/312 hazardous categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

This product may contain trace amounts of (other) SARA reportable chemicals. Contact the preparer for further information.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

This product may contain trace amounts of (other) HAPs chemicals. Contact the preparer for further information.

State Regulations

California Proposition 65

This product may contain small amounts of materials known to the state of California to cause cancer or reproductive harm.

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Louisiana	Rhode Island
Titanium dioxide	X	X	X		X
Silica, amorphous	X	X	X		
Kaolin	X	X	X		X

Legend

X - Listed

16. OTHER INFORMATION

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Prepared By	Product Stewardship Department Benjamin Moore & Co. 360 Route 206 - P.O. Box 4000 Flanders, NJ 07836 866-690-1961
Revision Date:	18-Dec-2012
Revision Summary	Not available

Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, provincial, and local laws and regulations.

End of MSDS

FRESH START®
MULTI-PURPOSE LATEX PRIMER N023

Features

- Excellent adhesion and sealing
- Easy application
- Mildew resistant
- Quick drying
- Spatter resistant
- Low odor

General Description

A premium quality, 100% acrylic interior and exterior primer that combines many of the qualities desired in a primer: excellent adhesion and sealing properties with the added benefits of being low odor and quick drying. It provides the versatility required for all your interior and exterior project needs.

Recommended For

Interior: Use on new or previously painted wood, plywood, drywall, ceiling tile, Formica®, Masonite®, ceramic tile and cured plaster.
Exterior: Use on new or previously painted wood, fiber cement board, hardboard siding, aluminum, galvanized metal, brick, cured masonry and previously coated ferrous metal surfaces.

Limitations

- Not recommended for sealing knots or over pine sap.
- On hard, non-porous surfaces, such as glazed ceramics and non-ferrous metal, maximum adhesion and hardness may take 3-4 days to develop.
- Do not apply when air and surface temperatures are below 40°F (4.4°C).
- Not for use on hard non-porous surfaces in areas that are continually wet like showers.

Product Information

Colors — Standard:

White

White may be tinted to light pastels with up to 2.0 fl. oz. of Benjamin Moore® Color Preview® or Gennex® colorants per gallon.

For best hiding results, tint to the approximate shade of the finish coat.

— Tint Bases:

Deep Color Base

(When tinted in accordance with Benjamin Moore prescriptions, the Deep Color Base will provide a hiding base coat suitable for use under deep and intense colors.)

— Special Colors:

Contact your Benjamin Moore representative.

Certification:

VOC compliant in all regulated areas

Master Painters Institute MPI # 6, 17, 39, 137

Qualifies for LEED® Credit (PRIMER)

Class A (0-25) over non-combustible surfaces when tested in accordance with ASTM E-84

LEED® Primer LEED® for Schools	CHPS (Collaborative for High Performance Schools)	VOC (any color)
YES	YES	39 g/l or less

Technical Assistance:

Available through your local authorized independent Benjamin Moore retailer. For the location of the retailer nearest you, call 1-800-826-2623, see www.benjaminmoore.com, or consult your local Yellow Pages.

Technical Data◊		White
Vehicle Type		100% Acrylic Latex
Pigment Type		Titanium Dioxide
Volume Solids		31.8%
Coverage per Gallon at Recommended Film Thickness		400 – 450 Sq. Ft.
Recommended Film Thickness	– Wet	3.8 mils
	– Dry	1.2 mils
Depending on surface texture and porosity. Be sure to estimate the right amount of paint for the job. This will ensure color uniformity and minimize the disposal of excess paint.		
Dry Time @ 77°F (25°C) @ 50% RH	– To Touch	1 Hour
	– To Recoat	3 Hours
High humidity and cool temperatures will result in longer dry, recoat and service times.		
Dries By		Evaporation, Coalescence
Viscosity		99 ± 3 KU
Flash Point		None
Gloss / Sheen		Flat (5-10 @ 85°)
Surface Temperature at Application	– Min.	40°F
	– Max	90°F
Thin With		Do Not Thin
Clean Up Thinner		Clean Water
Weight Per Gallon		10.3 lbs
Storage Temperature	– Min.	40°F
	– Max	90°F

Volatile Organic Compounds (VOC)

White 44 Grams/Liter	.37 Lbs./Gallon
Deep Base 46 Grams/Liter	.39 Lbs./Gallon

◊ Reported values are for White. Contact Benjamin Moore for values of other bases or colors.

Surface Preparation

Surfaces to be painted must be clean, dry, and free of dirt, dust, grease, oil, soap, wax, scaling paint, water soluble materials, and mildew. Remove any peeling or scaling paint and sand these areas to feather edges smooth with adjacent surfaces. Glossy areas should be dulled. Drywall surfaces must be free of sanding dust.

New plaster or masonry surfaces must be allowed to cure before applying base coat. Cured plaster should be hard, have a slight sheen and maximum PH of 10; soft, porous or powdery plaster indicates improper cure. Never sand a plaster surface; knife off any protrusions and prime plaster before and after applying patching compound. Poured or pre-cast concrete with a very smooth surface should be etched or abraded to promote adhesion, after removing all form release agents and curing compounds. Remove any powder or loose particles before priming. Wood substrates must be thoroughly dry. Caution: Smooth planed clapboards or siding must be sanded thoroughly to break the "mill glaze" allowing proper penetration and adhesion.

Difficult Substrates: If the surfaces to be painted exhibit severe tannin or smoke staining, an alkyd based Benjamin Moore primer may be your best choice for conquering these severe conditions. Consult your Benjamin Moore retailer for further guidance.

WARNING! If you scrape, sand or remove old paint, you may release lead dust. **LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE.** Wear a NIOSH-approved respirator to control lead exposure. Carefully clean up with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Primer/Finish Systems

New surfaces should be fully primed, and previously painted surfaces may be primed or spot primed as necessary. For best hiding results use Fresh Start® Multi-Purpose Latex Primer tinted to the approximate finish coat color. **Special Note:** Certain custom colors require a Deep Color Base Primer tinted to a special prescription formula to achieve the desired color. Consult your retailer.

Wood, and engineered wood products:
Primer: Fresh Start® Multi-Purpose Latex Primer (N023)
For bleeding woods such as cedar and redwood, use Fresh Start® Multi-Purpose Latex Primer (N023) or Fresh Start® Multi-Purpose Oil Based Primer (N/024)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat.

Drywall:
Primer: Fresh Start® Multi-Purpose Latex Primer (N023)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat

Plaster:
Primer: Fresh Start® Multi-Purpose Latex Primer (N023)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat.

Masonry; Rough or Pitted:
Primer: Super Spec® Latex Block Filler (160) or Super Spec® Masonry Interior/Exterior Hi-Build Block Filler (206)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat

Masonry; Smooth Poured or Pre-cast Concrete:
Primer: Super Spec® Masonry Acrylic Masonry Sealer (N/066) or Fresh Start® Multi-Purpose Latex Primer (N023) or Fresh Start® Exterior Latex Masonry Primer (064)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat.

Ferrous Metal (Steel and Iron):
Primer: Super Spec HP® DTM Acrylic Low Lustre (P25) or Super Spec HP® Acrylic Metal Primer (P04), Super Spec HP® DTM Alkyd Low Lustre (P23)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat.

Non-Ferrous Metal (Galvanized & Aluminum): All new metal surfaces must be thoroughly cleaned with an Oil & Grease Emulsifier to remove contaminants. New shiny non-ferrous metal surfaces that will be subject to abrasion should be dulled with very fine sandpaper or a synthetic steel wool pad to promote adhesion
Primer: Super Spec HP® Acrylic Metal Primer (P04)
Finish: 1 or 2 coats of the appropriate Benjamin Moore® finish coat.

Repaint, All Substrates: Prime bare areas with the primer recommended for the substrate above.

Application

Stir thoroughly before and during use. Apply one or two coats. **Paint Application:** For best results, use a premium Benjamin Moore ® custom-blended nylon/polyester brush, premium Benjamin Moore ® roller, or a similar product. Apply paint generously from unpainted area into wet area. This product can also be sprayed.

Spray, Airless: Fluid Pressure: 1500 – 2500
Tip: .013 - .017

Thinning/Cleanup

Thinning is unnecessary, but if required to obtain desired application properties, a small amount of clean water may be added. Never add other paints or solvents.

Clean Up: Clean equipment with mineral spirit. Spray equipment should be given a final rinse with mineral spirits to prevent rusting.

USE COMPLETELY OR DISPOSE OF PROPERLY. Dry empty containers may be recycled in a can recycling program**.** Local disposal requirements vary; consult your sanitation department or state-designated environmental agency on disposal options.

Environmental, Health & Safety Information

Use only with adequate ventilation. Do not breathe spray mist or sanding dust. Ensure fresh air entry during application and drying. Avoid contact with eyes and prolonged or repeated contact with skin. Avoid exposure to dust and spray mist by wearing a NIOSH approved respirator during application, sanding and clean up. Follow respirator manufacturer's directions for respirator use. Close container after each use. Wash thoroughly after handling.

WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects, or other reproductive harm.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes; for skin, wash thoroughly with soap and water. If symptoms persist, seek medical attention. If you experience difficulty breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

IN CASE OF SPILL – Absorb with inert material and dispose of as specified under "Clean Up".

KEEP OUT OF REACH OF CHILDREN
PROTECT FROM FREEZING

Refer to Material Safety Data Sheet for additional health and safety information.

Benjamin Moore & Co., 101 Paragon Drive, Montvale, NJ 07645 Tel: (201) 573-9600 Fax: (201) 573-9046 www.benjaminmoore.com M72 N023 US 012513

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Material Safety Data Sheet

Revision Date: *23-Oct-2013* **Revision Number:** *3*

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **FRESH START MULTI-PURPOSE LATEX PRIMER**

Product Code **N023**
Product Class WATER THINNED PAINT
Color All

Manufacturer
Benjamin Moore & Co.
101 Paragon Drive
Montvale, NJ 07645
Phone: 855-724-6802
www.benjaminmoore.com

Emergency Telephone Number(s)
CHEMTREC: 800-424-9300

2. COMPOSITION INFORMATION ON COMPONENTS

Hazardous Components

Chemical Name	CAS-No	Weight % (max)
Titanium dioxide	13463-67-7	15
Diatomaceous earth	61790-53-2	5
Kaolin	1332-58-7	5
Hexanedioic acid, dihydrazide	1071-93-8	0.5

3. HAZARDS IDENTIFICATION

Emergency Overview

Vapors may be irritating to eyes, nose, throat, and lungs. May cause skin irritation and/or dermatitis.. May cause allergic skin reaction.

Appearance liquid **Odor** little or no odor

Potential Health Effects

Principal Routes of Exposure Eye contact, skin contact and inhalation.

Acute Effects

Eyes May cause slight irritation.
Skin Substance may cause slight skin irritation. May cause allergic skin reaction.
Inhalation May cause irritation of respiratory tract.

Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic Effects	Repeated contact may cause allergic reactions in very susceptible persons.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions None known

HMIS **Health:** 1 **Flammability:** 0 **Reactivity:** 0 **PPE:** -

HMIS Legend
0 - Minimal Hazard
1 - Slight Hazard
2 - Moderate Hazard
3 - Serious Hazard
4 - Severe Hazard
* - Chronic Hazard
X - Consult your supervisor or S.O.P. for "Special" handling instructions.

Note: The PPE rating has intentionally been left blank. Choose appropriate PPE that will protect employees from the hazards the material will present under the actual normal conditions of use.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer, has chosen to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA. HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

4. FIRST AID MEASURES

General Advice	No hazards which require special first aid measures.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary.
Notes To Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment And Precautions For Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific Hazards Arising From The Chemical	Closed containers may rupture if exposed to fire or extreme heat.
Sensitivity To Mechanical Impact	No
Sensitivity To Static Discharge	No
Flash Point Data	
Flash Point (°F)	Not applicable
Flash Point (°C)	Not applicable
Flash Point Method	Not applicable
Flammability Limits In Air	
Lower Explosion Limit	Not applicable
Upper Explosion Limit	Not applicable

NFPA **Health:** 1 **Flammability:** 0 **Instability:** 0 **Special:** Not Applicable

NFPA Legend
0 - Not Hazardous
1 - Slightly
2 - Moderate
3 - High
4 - Severe

The ratings assigned are only suggested ratings, the contractor/employer has ultimate responsibilities for NFPA ratings where this system is used.

Additional information regarding the NFPA rating system is available from the National Fire Protection Agency (NFPA) at www.nfpa.org.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.
Environmental Precautions	Prevent further leakage or spillage if safe to do so.
Methods For Clean-Up	Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.
Other Information	None known

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing. Avoid breathing vapors, spray mists or sanding dust. In case of insufficient ventilation, wear suitable respiratory equipment.
Storage	Keep container tightly closed. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Hazardous Components

Chemical Name	ACGIH	OSHA
Titanium dioxide	10 mg/m^3 - TWA	15 mg/m^3 - TWA
Diatomaceous earth	N/E	- (80)/(% SiO2) mg/m^3 TWA 20 mppcf - TWA
Kaolin	2 mg/m^3 - TWA	15 mg/m^3 - TWA total 5 mg/m^3 - TWA
Hexanedioic acid, dihydrazide	N/E	N/E

Legend
ACGIH - American Conference of Governmental Industrial Hygienists Exposure Limits
OSHA - Occupational Safety & Health Administration Exposure Limits
N/E - Not Established

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.
Skin Protection Protective gloves and impervious clothing
Respiratory Protection In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene Measures Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid
Odor little or no odor
Density (lbs/gal) 9.5 - 10.3
Specific Gravity 1.13 - 1.24
pH Not available
Evaporation Rate Not available
Vapor Pressure Not available
Vapor Density Not available
Wt. % Solids 40 - 50
Vol. % Solids 25 - 40
Wt. % Volatiles 50 - 60
Vol. % Volatiles 60 - 75
VOC Regulatory Limit (g/L) < 100
Boiling Point (°F) 212
Boiling Point (°C) 100
Freezing Point (°F) 32
Freezing Point (°C) 0
Flash Point (°F) Not applicable
Flash Point (°C) Not applicable
Flash Point Method Not applicable
Upper Explosion Limit Not applicable
Lower Explosion Limit Not applicable

10. STABILITY AND REACTIVITY

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

Conditions To Avoid Prevent from freezing

Incompatible Materials No materials to be especially mentioned.

Hazardous Decomposition Products None under normal use.

Possibility Of Hazardous Reactions None under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product
No information available

Component

Titanium dioxide
LD50 Oral: > 10000 mg/kg (Rat)
LD50 Dermal: > 10000 mg/m³ (Rabbit)
LC50 Inhalation (Dust): > 6.82 mg/L (Rat, 4 hr.)

Kaolin
LD50 Oral: > 5000 mg/kg (Rat)

Chronic Toxicity

Carcinogenicity
The information below indicates whether each agency has listed any ingredient as a carcinogen:

Chemical Name	ACGIH	IARC	NTP	OSHA Carcinogen
Titanium dioxide		2B - Possible Human Carcinogen		Listed

- Although IARC has classified titanium dioxide as possibly carcinogenic to humans (2B), their summary concludes: "No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other materials, such as paint."

Legend
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
NTP - National Toxicity Program
OSHA - Occupational Safety & Health Administration

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Product

Acute Toxicity to Fish
No information available

Acute Toxicity to Aquatic Invertebrates
No information available

Acute Toxicity to Aquatic Plants
No information available

Component

Acute Toxicity to Fish

Titanium dioxide
LC50: >1000 mg/L (Fathead Minnow - 96 hr.)

Acute Toxicity to Aquatic Invertebrates
No information available

Acute Toxicity to Aquatic Plants
No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with federal, state, and local regulations. Dry, empty containers may be recycled in a can recycling program. Local requirements may vary, consult your sanitation department or state-designated environmental protection agency for more disposal options.

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO / IATA Not regulated

IMDG / IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

15. REGULATORY INFORMATION

United States TSCA Yes - All components are listed or exempt.
Canada DSL No - Not all of the components are listed.

Federal Regulations

SARA 311/312 hazardous categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

This product may contain trace amounts of (other) SARA reportable chemicals. Contact the preparer for further information.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product contains the following HAPs:

This product may contain trace amounts of (other) HAPs chemicals. Contact the preparer for further information.

State Regulations

California Proposition 65

This product may contain small amounts of materials known to the state of California to cause cancer or reproductive harm.

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Louisiana	Rhode Island
Titanium dioxide	X	X	X		X
Diatomaceous earth		X			X
Kaolin	X	X	X		X

Legend
X - Listed

16. OTHER INFORMATION

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Prepared By	Product Stewardship Department Benjamin Moore & Co. 101 Paragon Drive Monvale, NJ 07645 855-724-6802
Revision Date:	23-Oct-2013
Revision Summary	Not available

Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, provincial, and local laws and regulations.

End of MSDS

TALAS
EST 1962
www.talasonline.com

Data Sheet and Instructions for Using Beva Gel

Beva Gel is an aqueous dispersion of ethylene vinyl acetate and acrylic resins in a solution of water-soluble cellulosic material (a variation of the special adhesive used to line the Atlanta Cyclorama).

Reversibility.
After prolonged accelerated aging tests, BEVA GEL remained partially soluble in water, isopropyl alcohol, and toluene. It can be softened for removal with any or all of the above solvents, or at the temperature of 150 degrees F (66 degrees C), if and when removal is necessary. However, because of the high-molecular weight of the BEVA-GEL components, this process would take a long time. Therefore, it is recommended to separate coatings of BEVA-GEL from any surface which requires reversibility by using an isolating layer of BEVA 371 Solution of BEVA 371 FILM.

- BEVA GEL can be used in very application where BEVA D-8 has been used before. It has better adhesion to many substrates.
- BEVA GEL stays removable with water from any surface for weeks after application, including brushes and rollers used to apply it. This facilities clean-up.
- BEVA GEL has excellent "slip" when used as an aqueous adhesive. This permits easy and exact alignment of the adhered surfaces.
- BEVA GEL develops tack rapidly when applied to porous or absorbent surfaces.

The following procedure is recommended when using BEVA GEL as a contact adhesive:
1. Prepare the surfaces about to be adhered to make them as smooth and clean as possible.
2. Prime the reverse of the painting to be adhered with an isolating coat of BEVA 371 Solution about 2-3 hours prior to application of BEVA GEL.
3. Mark the outline of the painting on the new support (make register marks).
4. Coat the new support with a heavy layer of BEVA GEL, and let it dry until tacky (30-60 minutes), depending on the temperature and R.H.
5. Place painting between the register marks and apply light pressure over all of its surface, suing tampons, soft rollers, vacuum, or other means, as the case may require.
6. Let the laminate dry for at least 48 hours in a horizontal position.

Heat-activation of BEVA GEL
BEVA GEL can be heat-activated at 150-160 degrees F (66-70 degrees C) during or after drying. This enables the conservator to correct loose areas which might develop.

Because BEVA GEL is thixotropic, i.e. it does not run when left alone even on vertical surfaces. This quality is useful when consolidating loose areas (blisters) on murals. The possibility of reactivating BEVA GEL by heat is very useful in this application.

The aqueous vehicle of BEVA GEL recommends its use for large paintings and murals which are often treated in locations without adequate ventilation.

BEVA GEL coatings which have dried can be reactivated by brushing or spraying with water, isopropyl alcohol, or mixtures of both. For reactivation, it is recommended to cover the moistened area for a few hours with Mylar to assure even distribution of the softening agent.

BEVA GEL and BEVA 371 have excellent adhesion to each other.

CAUTION: To assure easy reversibility of any laminating adhesive, use BEVA 371 as a separating layer.

For a detailed description of practical uses of BEVA GEL read "more Unconventional Treatments for Unconventional Art" by G.A. Berger, Studies in Conservation, Vol. 35, No.1, (1990), pp. 1-14.

Talas
http://talasonline.com

Your professional resource for the finest in conservation, preservation, and restoration supplies – since 1962.

BEVA® 371 Solution
Material Safety Data Sheet

1. Identification

Adhesive Formulation: Original formula ® 371 Solution

Toluene (toluol)	60%
Naphtha	
DuPont Elvax 150 (Ethylene Vinyl Acetate Copolymer)	40%
BASF Larapol K80 (Cyclohexanone resin)	
Allied A-C Copolymer (Ethylene Vinyl Acetate Copolymer)	
Hercules Cellolyn 21 (Phthalate Ester of Hydroabietyl Alcohol)	

2. Physical Data

Description:	White Opaque gel with an aromatic odor
Boiling Point:	105^0C
Melting Point:	50 to 55^0C
Specific Gravity:	0.9
Vapor Pressure:	12mm Hg @ 20^0C
Solvent Solubility:	naphtha, benzine, acetone, alcohol
Odor Threshold:	2 to 5 ppm

3. Hazards Information

Emergency Overview
POISON! DANGER! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. VAPOR HARMFUL. FLAMMABLE LIQUID AND VAPOR. MAY AFFECT LIVER, KIDNEYS, BLOOD SYSTEM, OR CENTRAL NERVOUS SYSTEM. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Health Rating: 2 - Moderate (Life)
Flammability Rating: 3 - Severe (Flammable)
Reactivity Rating: 1 - Slight
Contact Rating: 3 - Severe (Life)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Toxicity
Inhalation:
Inhalation may cause irritation of the upper respiratory tract. Symptoms of overexposure may include fatigue, confusion, headache, dizziness and drowsiness. Peculiar skin sensations (e. g. pins and needles) or numbness may be produced. Very high concentrations may cause unconsciousness and death.
Ingestion:

Swallowing may cause abdominal spasms and other symptoms that parallel over-exposure from inhalation. Aspiration of material into the lungs can cause chemical pneumonitis, which may be fatal.
Skin Contact:
Causes irritation. May be absorbed through skin.
Eye Contact:
Causes severe eye irritation with redness and pain.
Chronic Exposure:
Reports of chronic poisoning describe anemia, decreased blood cell count and bone marrow hypoplasia. Liver and kidney damage may occur. Repeated or prolonged contact has a defatting action, causing drying, redness, dermatitis. Exposure to toluene may affect the developing fetus.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or impaired liver or kidney function may be more susceptible to the effects of this substance. Alcoholic beverage consumption can enhance the toxic effects of this substance.

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4. First Aid Measures

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. CALL A PHYSICIAN IMMEDIATELY.
Ingestion:
Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately. If vomiting occurs, keep head below hips to prevent aspiration into lungs.
Skin Contact:
In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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5. Fire Fighting Measures

Fire and Explosion Hazard: Dangerous fire hazard when exposed to heat, flame, or oxidizers. Moderate explosion hazard when exposed to flame or ignition source.

Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back.

Vapor-Air mixtures are explosive above the flash point

Flash Point:	25^0C
Upper Explosion Limit:	7.1%
Lower Explosion Limit:	1.3%
Flammability Class (OSHA):	IB

Fire Fighting Media: Dry chemical, carbon dioxide, water or foam.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
- OSHA Permissible Exposure Limit (PEL):
200 ppm (TWA); 300 ppm (acceptable ceiling conc.); 500 ppm (maximum conc.).
- ACGIH Threshold Limit Value (TLV):
50 ppm (TWA) skin, A4 - Not Classifiable as a Human Carcinogen.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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10. Other Precautions

Precautions:
Keep away from heat, sparks and flame.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Avoid breathing vapor.
Avoid contact with eyes, skin and clothing.

First Aid:
Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head below hips to prevent aspiration into lungs. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases call a physician immediately.

Disclaimer:

The information provided here is done so in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, WE WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

Technical Bulletin

2400 Boston Street, Suite 200, Baltimore, Maryland 21224
Phone: 410-675-2100 or 800-543-3840

Revised: 5/20/2005

DAP® Vinyl Spackling

- **Heavy duty**
- **Resists cracking**
- **Easy to sand**
- **Interior/exterior use**

Packaging: 5.5 oz squeeze tube, 1/2 pint tub, 24 oz. tub, 1quart tub, 1 gallon tub, 237 ml tub, 946 ml tub, 3.8 L tub
Color: White
UPC Number: 12008, 12130, 12135, 12132, 12133, 20040, 20045, 20050, 20090

Company Identification:

Manufacturer: DAP Inc., 2400 Boston Street, Baltimore, Maryland 21224
Usage Information: DAP HELPLINE: 888-DAP-TIPS, 9:00 am to 7:00 pm EST.
Order Information: 800-327-3339
Fax Number: 410-534-2650
Also, visit the DAP website at **www.dap.com.**

Product Description:

DAP® Vinyl Spackling may be used to fill holes and cracks in surfaces such as drywall, plaster, wood, brick and stone. Its ready-to-use formula spreads easily for fast, professional repairs that will not crack, crumble or flake. DAP® Vinyl Spackling dries hard, sands easily and can be painted.

Suggested Uses:

Ideal for filling holes, cracks and defects on:

- Drywall/Plaster
- Wood
- Brick
- Stone

Surface Preparation & Application:

- Surface must be clean, dry and free of foreign material.
- Stir before use. Apply with a clean putty knife.
- For a smoother finish, dip putty knife in water and lightly smooth spackling.
- One application is usually sufficient for small repairs. For repairs deeper than 1/4", apply two or more layers allowing spackling to dry between applications.
- May be sanded or painted in 1 to 5 hours depending on temperature, humidity and depth of fill. Wet sanding is recommended to avoid generation of dust.
- Clean tools immediately with water.

For Best Results:

- Do not apply when temperatures are below 50°F.
- Do not apply outside if rain is expected within 24 hours.
- Do not use on floors or as caulk, sealant or joint filler over cracks and joints where expansion and contraction may occur.
- **DO NOT USE AS A SKIM COAT.**
- For exterior applications, always topcoat with a good quality paint.
- If a textured finish is desired, add clean sand to spackling compound prior to application.
- Do not use for tuck pointing applications on brick.
- For larger areas to be patched on bare concrete, use a latex fortified Portland cement-based dry mix.

Physical & Chemical Characteristics:

Consistency:	Paste
Vehicle:	Water
Volatile:	Water
Filler:	Inert Filler
Odor:	Slight Acetate
Weight/Gallon:	15.5 ± .2 Pounds
Solids:	76% by weight
Application Temperature:	50°F Minimum
Service Temperature:	0°F to 150°F
Shelf Life:	1 Year
Freezing:	Freeze/Thaw Stable 5 Cycles at 0°F
Drying Time:	1 to 5 hours depending on temperature and relative humidity and depth of fill.
Painting:	Takes either oil or latex-base paint when dry.
MSDS No.:	000 10405 001

Clean Up & Storage:

Wash tools immediately after use with water. Be sure container is closed and tightly sealed. Store in a cool, dry place.

Safety:

See product label and Material Safety Data Sheet (MSDS) for safety information. You can request an MSDS by visiting our website at www.dap.com or by calling 888-DAP-TIPS.

Satisfaction Guaranteed:

If you are not satisfied with this product's performance when used as directed, return used container and sales receipt to DAP Inc., Technical Customer Service, 2400 Boston Street, Suite 200, Baltimore, MD 21224 for product replacement or sales price refund. DAP will not be liable for incidental or consequential damages.

Technical Bulletin

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Phone: 410-675-2100 or 800-543-3840

Revised: 5/20/2005

DAP® Vinyl Spackling

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Company Identification:

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Usage Information: DAP HELPLINE: 888-DAP-TIPS, 9:00 am to 7:00 pm EST.
Order Information: 800-327-3339
Fax Number: 410-534-2650
Also, visit the DAP website at **www.dap.com.**

Product Description:

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- Wood
- Brick
- Stone

Surface Preparation & Application:

- Surface must be clean, dry and free of foreign material.
- Stir before use. Apply with a clean putty knife.
- For a smoother finish, dip putty knife in water and lightly smooth spackling.
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Physical & Chemical Characteristics:

Consistency:	Paste
Vehicle:	Water
Volatile:	Water
Filler:	Inert Filler
Odor:	Slight Acetate
Weight/Gallon:	15.5 ± .2 Pounds
Solids:	76% by weight
Application Temperature:	50°F Minimum
Service Temperature:	0°F to 150°F
Shelf Life:	1 Year
Freezing:	Freeze/Thaw Stable 5 Cycles at 0°F
Drying Time:	1 to 5 hours depending on temperature and relative humidity and depth of fill.
Painting:	Takes either oil or latex-base paint when dry.
MSDS No.:	000 10405 001

Clean Up & Storage:

Wash tools immediately after use with water. Be sure container is closed and tightly sealed. Store in a cool, dry place.

Safety:

See product label and Material Safety Data Sheet (MSDS) for safety information. You can request an MSDS by visiting our website at www.dap.com or by calling 888-DAP-TIPS.

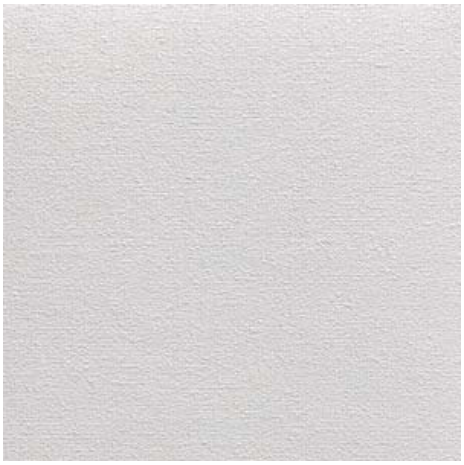
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PRODUCT SPECIFICATION SHEET
FREDRIX ARTIST CANVAS

Fredrix Style 574 Knickerbocker Cotton Canvas Rolls

PRODUCT NAME: Knickerbocker– Style 574
ITEM MASTER: 1057



Style 574 Knickerbocker Cotton Canvas Ro

CANVAS CONSTRUCTION:	2.6 oz, 100% Cotton Duck 48 x 52 (warp x fill)
COATING:	Acrylic Latex Primer
COATED WEIGHT:	8.5 oz/sq.yd nominal
ACIDITY (pH)	Neutral (Acid-free)
APPEARANCE:	Off-white with fine texture

ROLL DIMENSIONS:
WIDTH: 60 inches wide, including selvedges
LENGTHS:

1057	6 yards
10572	30 yards
10573	100 yards

Universal painting media. Double acrylic primed to accept oil, acrylic or alkyd paints.

Excellent for detail work, Fredrix Style 574 Kickerbocker Cotten Canvas is a smooth, lightweight, 6oz 100% cotton canvas with a fine texture. It is primed in the USA with acid-free acrylic titanium gesso to a finished weight of 9 oz.

Acetone

QAC18	**Quart**
GAC18	**Gallon**
CAC18	**5 Gallon**
DAC18	**55 Gallon**



REGULATORY DATA SHEET

VOC Content: 0% by wt. 0 g/L

VOC Product Categories	Geographic Region	VOC Limit
Multipurpose Solvent	California - SCAQMD[1]	300 g/L

SALES BANS: None

Future Limits: California (state) and SCAQMD

Notes

1. SCAQMD contains Los Angeles, Orange, Riverside and San Bernadino counties

CPSIA Compliance Certificate

This Product Certification is provided to meet the requirements of the Consumer Product Safety Improvement Act of 2008. WM Barr & Company ("Barr") hereby certifies that the product identified below complies with the regulations, rules, and/or standards identified below.

Product: ***Klean Strip Acetone***

I. Laws and Regulations for which compliance is certified

- Federal Hazardous Substance Act – 16 CFR Part 1500
- Poison Prevention Packaging Act – 16 CFR Part 1700

II. Party Certifying Compliance

WM Barr & Company, Inc.
6750 Lenox Center Court, Suite 200
Memphis, TN 38115
(901) 775-0100

III. Date and Place of Manufacture

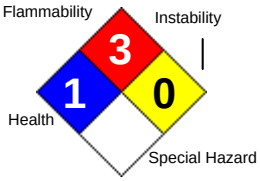
WM Barr & Company, Inc.
Presidents Island Industrial Park
2105 Channel/2170 Buoy
Memphis, TN 38113

Date of manufacture for any unit of product is date-coded on the container.

MATERIAL SAFETY DATA SHEET
Klean-Strip Acetone



HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE		X



Printed: 05/10/2012
Revision: 05/10/2012
Supercedes Revision: 04/14/2009

1. Product and Company Identification

Product Code: LL34

Product Name: Klean-Strip Acetone

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Department (901)775-0100

Synonyms

CAC18, DAC18, GAC18, GAC718, QAC18, QAC18L, QAC718, QAC18L

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Acetone {2-Propanone}	67-64-1	100.0 %	1000 ppm	500 ppm	No data.

Hazardous Components (Chemical Name)	CAS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Acetone {2-Propanone}	67-64-1	No data.	No data.	750 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger! Extremely Flammable. Harmful if swallowed. Vapor harmful. Eye irritant.

Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause flash fire or ignite explosively. Vapors may travel long distances to other areas and rooms away from the work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling, or building during use and until all vapors are gone from the work site. Keep away from electrical outlets and switches.

Forms or accumulates static electricity, may cause fire or explosion.

Potential Health Effects (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, drowsiness, nausea, and numbness in fingers, arms and legs. Inhalation of high vapor concentrations can cause central nervous system depression and narcosis. May lead to unconsciousness.

Skin Contact Acute Exposure Effects:
May cause skin irritation. Liquid is absorbed readily and can transport other toxins into the body. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eye Contact Acute Exposure Effects:
This material is an eye irritant. Causes itching, burning, redness and tearing. May cause corneal injury.

Ingestion Acute Exposure Effects:
Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. May cause irritation of the gastrointestinal tract. May cause systemic poisoning with symptoms paralleling those of inhalation.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. May cause weakness, fatigue, skin irritation, and numbness in hands and feet.

May cause target organ or system damage to the respiratory system, nervous system, kidney, blood system, and liver.

Target Organs:
Eyes, skin, respiratory system, central nervous system, heart

Signs and Symptoms Of Exposure

Primary Routes of Exposure:
Inhalation, ingestion, and dermal.

Medical Conditions Generally Aggravated By Exposure

Skin, eye, respiratory and asthma, cardiac irregularities

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

4. First Aid Measures

Emergency and First Aid Procedures

Skin:
Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Note to Physician

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

Flammability Classification:	Class IB
Flash Pt:	0 F Method Used: TAG Closed Cup
Explosive Limits:	LEL: 2.5 % at 77 F UEL: 13.0 % at 77 F
Autoignition Pt:	870 F

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

Extremely Flammable! Vapors are heavier than air and may spread along floors. Forms or accumulates static electricity, may cause fire or explosion.

Acetone/water solutions that contain more than 2.5% acetone have flash points. When the acetone concentration is greater than 8% by weight in a closed container, it would be within the flammable range and cause fire or explosion if a source of ignition were introduced.

Do not spread this product over a large surface area because the fire and health safety risks will increase dramatically.

Hazardous Combustion Products

carbon monoxide, carbon dioxide

Extinguishing Media

Use carbon dioxide, dry powder, or alcohol-resistant foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or flame, furnace areas, pilot lights, stoves, etc. Do not reuse this container. Use product within one year of purchasing.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Splash goggles.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber, natural rubber, and neoprene may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices

Wash hands thoroughly after use and before eating, drinking, smoking, or using the restroom.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid

Melting Point: No data.

Boiling Point: > 130 F

Autoignition Pt: 870 F

Flash Pt: 0 F Method Used: TAG Closed Cup

Explosive Limits: LEL: 2.5 % at 77 F UEL: 13.0 % at 77 F

Specific Gravity (Water = 1): 0.789

Density: 6.572 LB/GA at 77 F

Vapor Pressure (vs. Air or mm Hg): 213 MM HG at 77 F

Vapor Density (vs. Air = 1): No data.

Evaporation Rate: No data.

Solubility in Water: Complete

Percent Volatile: 100 % by weight.

Appearance and Odor

Clear colorless liquid with a characteristic ketone odor. Odor may be described as a sweet pungent odor.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Avoid contact with acids, aldehydes, alkalies, amines, ammonia, oxidizing agents, reducing agents, chlorine compounds.

May form explosive mixtures with chromic anhydride, chromyl alcohol, hexachloromelamine, hydrogen peroxide, permonosulfuric acid, potassium tertbutoxide, and thioglycol. Strong oxidizers.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide, carbon dioxide, and other asphyxiants.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

Acetone:
ACUTE TOXICITY:
LC50, rat, inhalation, 8 hrs, 50,000 mg/m3
LD50, rabbit, skin, 20,000 mg/kg
LD50, rat, oral, 5.8 g/kg
SKIN CORROSION / IRRITATION: Moderately irritating to skin. Prolonged or repeated skin contact can result in defatting and drying of the skin which may result in irritation or dermatitis.
SERIOUS EYE DAMAGE / IRRITATION: May cause moderate to severe irritation.
RESPIRATORY OR SKIN SENSITIZATION: Not a respiratory or skin sensitizer.
ASPIRATION HAZARD: Pulmonary aspiration hazard.
MUTAGENIC DATA: No data
IMMUNOTOXICITY: No data
NEUROTOXICITY: Clinical studies and case reports suggest slight neurological effects, mostly of the subjective

type, in individuals exposed to varying concentrations of acetone. In most studies the subjects report discomfort, irritation of the eyes and respiratory passages, mood swings, and nausea following exposure to acetone vapor at concentrations of 500 ppm or higher. The fact that the effects subside following termination of exposure indicates that acetone may be the active compound, rather than a metabolite. Case reports of accidental poisoning also indicate that the effects (e.g., lethargy and drowsiness) are short-lived.
DEVELOPMENTAL/REPRODUCTIVE: Inhalation exposure to pregnant rats and mice did not cause statistically significant malformations in the offspring, but did result in lower fetal body weights in both species. Changes in testicular weight were observed in male rats following oral exposure and a premature menstrual period occurred in 3 of 4 women acutely exposed by inhalation. The significance of these endpoints of reproductive toxicity in men and women is unknown at this time.
CARCINOGEN STATUS: Not classifiable as to human carcinogenicity. Lack of data concerning carcinogenicity in humans or animals.

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

ACGIH A4 - Not Classifiable as a Human Carcinogen.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Acetone {2-Propanone}	67-64-1	n.a.	n.a.	A4	n.a.

12. Ecological Information

General Ecological Information

Acetone:
Toxicity:
LC50 /Oncorhynchus mykiss/ (Rainbow trout, weight 1.0 g) 5,540 mg/L/96 hr at 12 deg C (95% confidence limit 4,740-6,330 mg/L), /static bioassay/
LC50; Species: Oncorhynchus mykiss (Rainbow trout, fingerling, length 9.4 cm, weight 10.8 g); Conditions: freshwater, flow through, 10 deg C, pH 8.0; Concentration: 6100 mg/L for 24 hr
LC50 Pimephales promelas (Fathead minnow, age 33 days, length 22.6 mm, weight 0.159 g) 8,120 mg/L/96 h (95% confidence limit: 7,530-8,760 mg/L); flow through, 25.0 deg C, dissolved oxygen 6.7 mg/L, hardness 48.5 mg/L CaCO3, alkalinity 45.8 mg/L CaCO3, pH 7.58 /99% pure/
Persistance and Degradability: Biodegradation of this compound is expected, but volatilization has been shown to be the primary removal mechanism of acetone in water(5-7).
Bioaccumulative Potential: Potential for bioconcentration in aquatic organisms is low.
Mobility In Soil: High mobility in soil.

13. Disposal Considerations

Waste Disposal Method

Dispose of in accordance with all applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Acetone

DOT Hazard Class: 3

DOT Hazard Label: FLAMMABLE LIQUID

UN/NA Number: UN1090

Packing Group: II

Additional Transport Information

The transporation information listed above is suitable for all modes of transportation. IMO/IMDG, ICAO/IATA, 49 CFR

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper/supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Acetone {2-Propanone}	67-64-1	No	Yes 5000 LB	No	Yes

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Acetone {2-Propanone}	67-64-1	HAP, ODC ()	No	Inventory, 4 Test	No

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard

[X] Yes [ ] No Chronic (delayed) Health Hazard

[X] Yes [ ] No Fire Hazard

[ ] Yes [X] No Sudden Release of Pressure Hazard

[ ] Yes [X] No Reactive Hazard

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Denatured Alcohol

QSL26	**Quart**
GSL26	**Gallon**
CSL26	**5 Gallon**
DSL26	**55 Gallon**



REGULATORY DATA SHEET

VOC Content:	3% by wt.	30 g/L

VOC Product Categories	Geographic Region	VOC Limit
Glass Cleaner	National	8%
Glass Cleaner	CA, CT, DE, IL, ME, MD, MA, NH, NJ, NY, OH, PA, RI, VA	4%

SALES BANS:	None
Future Limits:	None

CPSIA Compliance Certificate

This Product Certification is provided to meet the requirements of the Consumer Product Safety Improvement Act of 2008. WM Barr & Company ("Barr") hereby certifies that the product identified below complies with the regulations, rules, and/or standards identified below.

Product: ***Klean Strip S-L-X Denatured Alcohol***

I. Laws and Regulations for which compliance is certified

- Federal Hazardous Substance Act – 16 CFR Part 1500
- Poison Prevention Packaging Act – 16 CFR Part 1700

II. Party Certifying Compliance

WM Barr & Company, Inc.
6750 Lenox Center Court, Suite 200
Memphis, TN 38115
(901) 775-0100

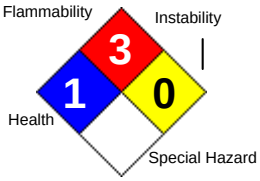
III. Date and Place of Manufacture

WM Barr & Company, Inc.
Presidents Island Industrial Park
2105 Channel/2170 Buoy
Memphis, TN 38113

Date of manufacture for any unit of product is date-coded on the container.

SAFETY DATA SHEET
Denatured Alcohol

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE		X



Printed: 04/15/2013
Revision: 04/15/2013
Supercedes Revision: 06/08/2012

1. Product and Company Identification

Product Code: 1625.6

Product Name: Denatured Alcohol

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Synonyms

CSL26, DSL26, GSL26, QSL26

2. Hazards Identification

GHS Classification

GHS Hazard Phrases

No data available.

GHS Precaution Phrases

No data available.

GHS Response Phrases

No data available.

GHS Storage and Disposal Phrases

No data available.

Potential Health Effects (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, irritation to the eyes, drowsiness, nausea, other central nervous system effects, spotted or blurry vision, dilation of pupils, and convulsions.

Skin Contact Acute Exposure Effects:
May cause irritation, drying of skin, redness, and dermatitis. May cause symptoms listed under inhalation. May be absorbed through damaged skin.

Eye Contact Acute Exposure Effects:
May cause irritation.

Ingestion Acute Exposure Effects:
Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May produce fluid in the lungs and pulmonary edema. May cause dizziness, headache, nausea, drowsiness, loss of coordination, stupor, reddening of face and or neck, liver, kidney and heart damage, coma, and death. May produce symptoms listed under inhalation.

Chronic Exposure Effects:
May cause symptoms listed under inhalation, dizziness, fatigue, tremors, permanent central nervous system changes, blindness, pancreatic damage, and death.

Target Organs:
Liver, kidneys, pancreas, heart, lungs, brain, central nervous system, eyes

Medical Conditions Generally Aggravated By Exposure

Diseases of the liver, skin, lung, kidney, central nervous system, pancreas, and heart; asthma; inflammatory or fibrotic pulmonary disease; any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease, or anemias

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration
1. Ethyl alcohol {Ethanol}	64-17-5	40.0 -50.0 %
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	50.0 -55.0 %
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	1.0 -4.0 %
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	0.5 -1.5 %
5. Heptane	142-82-5	0.5 -1.5 %

4. First Aid Measures

Emergency and First Aid Procedures

Skin:
Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Note to Physician

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further instructions.

Signs and Symptoms Of Exposure

See Potential Health Affects

5. Fire Fighting Measures

Flammability Classification: OSHA Class IB

Flash Pt: 45 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined area. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

Vapors are heavier than air. Vapor may travel considerable distance to source of ignition and flash back.

Hazardous Combustion Products

carbon monoxide, carbon dioxide

Suitable Extinguishing Media

Use carbon dioxide, dry powder, or alcohol resistant foam.

Unsuitable Extinguishing Media

Water may be ineffective. Solid streams of water will likely spread the fire.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Vapors are heavier than air. Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms where vapors can accumulate. Vapors can accumulate and explode if ignited.

Do not use this product if the work area is not well ventilated. Use only with adequate ventilation to prevent build up of vapors.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Use proper bonding and grounding when transferring material. Be aware of static electricity generation when handling material.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Ethyl alcohol {Ethanol}	64-17-5	PEL: 1000 ppm	TLV: 1000 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	PEL: 100 ppm	TLV: 50 ppm STEL: 75 ppm	No data.
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	PEL: 400 ppm	TLV: 400 ppm	No data.
5. Heptane	142-82-5	PEL: 500 ppm	TLV: 400 ppm	No data.

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Chemical splash goggles should be worn to prevent eye contact.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile, natural rubber, and neoprene will provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices

Wash hands thoroughly after use and before eating, drinking, smoking, or using the restroom.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	150 F
Autoignition Pt:	No data.
Flash Pt:	45 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Specific Gravity (Water = 1):	0.7934 - 0.8108
Density:	6.646 LB/GL
Vapor Pressure (vs. Air or mm Hg):	76 MM HG at 68 F
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate:	> 1
Solubility in Water:	No data.
Percent Volatile:	100 % by weight.
VOC / Volume:	790 G/L

Appearance and Odor

Water white, alcohol odor

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents, strong acids, reactive metals, halogens, strong inorganic acids, and aldehydes.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Reactions

No data available.

11. Toxicological Information

Toxicological Information

Ethanol:
ACUTE TOXICITY:
LD50 Rat oral 7060 mg/kg
LC50 Rat inhalation 20000 ppm/ 10 hr
SKIN CORROSION / IRRITATION: Skin irritant.
SERIOUS EYE DAMAGE / IRRITATION: Eye irritant. Will cause burning and stinging.
RESPIRATORY OR SKIN SENSITIZATION: Ethanol has been shown to have a weak skin sensitizing potential in a very small percentage of the population.

ASPIRATION HAZARD: No data.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: The clinical features of ethanol intoxication in a nontolerant individual are related to blood alcohol levels: at 50 to 150 mg/dL (0.05 to 0.15%), there is mild intoxication: slight impairment of visual acuity, muscular incoordination, and reaction time; and mood personality, and behavioral changes; at 150 to 300 mg/dL (0.15 to 0.30%), moderate intoxication occurs, resulting in visual impairment, sensory loss, muscular incoordination, slowed reaction time, and slurred speech; at 300 to 500 mg/dL (0.30 to 0.50%), there is severe intoxication characterized by marked muscular incoordination, blurred or double vision, sometimes stupor and hypothermia, vomiting and nausea, and occasional hypoglycemia and convulsions; and at > 400 mg/dL (0.40%), there are coma, respiratory depression, hypotension and hypothermia, and death from respiratory or circulatory failure or as a result of aspiration of stomach contents in the absence of a gag reflex.
DEVELOPMENTAL/REPRODUCTIVE: Prenatal exposure to ethanol (as alcoholic beverages) is associated with a distinct pattern of congenital malformations that have been collectively termed the fetal alcohol syndrome. There have been no reports of fetal alcohol syndrome as a result of industrial exposure by the oral, dermal, or inhalation routes.
CARCINOGEN STATUS: Not classifiable as a human carcinogen.

Ethyl Acetate:
ACUTE TOXICITY:
LD50, rat, oral, 5,600 mg/kg
LC50, rat, inhalation, 16,000 ppm, 6 hr
LD50, rabbit, skin, >20 mL/kg
SKIN CORROSION / IRRITATION: Causes slight skin irritation.
SERIOUS EYE DAMAGE / IRRITATION: Causes eye irritation.
RESPIRATORY OR SKIN SENSITIZATION: Not a sensitizer.
ASPIRATION HAZARD: No data.
MUTAGENIC DATA: Ethyl acetate was negative for mutagenicity in Salmonella typhimurium assays.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: High concentrations may cause CNS depression.
DEVELOPMENTAL/REPRODUCTIVE: No data.
CARCINOGEN STATUS: No data.

Heptane:
LD50 Mouse iv 222 mg/kg
LD50 Mouse inhalation 75 g/cu m/2 hr
LC50 Rat inhalation 103 g/cu m/4 hr

Methanol:
ACUTE TOXICITY:
LD50 Rat oral 5628 mg/kg
LC50 Rat inhalation 64000 ppm/4 hr
LC50 Rat inhalation 87.5 mg/L/6 hr
LD50 Mouse oral 7300 mg/kg
SKIN CORROSION / IRRITATION: LD50 Rabbit dermal 15,800 mg/kg bw
SERIOUS EYE DAMAGE / IRRITATION: Methanol is a mild to moderate eye irritant.
RESPIRATORY OR SKIN SENSITIZATION: Not a respiratory or skin sensitizer.

ASPIRATION HAZARD: Methanol presents an aspiration hazard.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: Overexposure to methanol has been suggested as causing central nervous system damage in laboratory animals.
DEVELOPMENTAL/REPRODUCTIVE: The inhalation of methanol by pregnant rodents throughout the period of embryogenesis induces a wide range of concentration-dependent teratogenic and embryolethal effects. Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.
CARCINOGEN STATUS: There is no evidence from animal studies to suggest methanol is a carcinogen.

Methyl Isobutyl Ketone:
LD50 Rabbit dermal >16000 mg/kg bw
LC50 Rat inhalation 8.2-16.4 mg/L/4 hr
LD50 Mouse ip 590 mg/kg bw
LD50 Guinea pig ip 0.919 mL/kg
LC50 Mouse inhalation, CF-1, 74.2 + or - 25.8 mg/L/45 min
LD50 Rat ip 1.14 mL/kg
LD50 Mouse oral 2850 mg/kg bw
LD50 Mouse oral 1900 mg/kg bw
LD50 Rat oral 4600 mg/kg bw
LD50 Rat oral 2.08 g/kg

CAS# 67-56-1:
Reproductive Effects:, TDLo, Oral, Rat, 42.00 mL/kg, 21 day after birth.
Result:
Effects on Newborn: Behavioral.
- Neurotoxicology and Teratology., Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, Vol/p/yr: 24,519, 2002

Mutagenicity:, Mutation test: DNA damage., Oral, Rat, 10.00 UMOL/KG.
Result:
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.
Tumorigenic:Tumors at site of application.
- Environmental Mutagenesis., For publisher information, see EMMUEG, New York, NY, Vol/p/yr: 4,317, 1982

Acute toxicity, LD50, Oral, Rat, 5628. MG/KG.
Result:
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
- Gigiena Truda i Professional'nye Zabolevaniya.(Labor Hygiene and Occupational Disease), V/O Mezhdunarodnaya Kniga, Moscow 113095 Russia, Vol/p/yr: 19(11),27, 1975

Acute toxicity, LC50, Inhalation, Rat, 64000. PPM, 4 H.
Result:
Behavioral: Altered sleep time (including change in righting reflex).
Behavioral: Somnolence (general depressed activity).
Lungs, Thorax, or Respiration:Dyspnea.
- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ., Bethlehem, PA 18015, Vol/p/yr: 1,74, 1974

Acute toxicity, TDLo, Oral, Rat, 3.000 gm/kg.
Result:
Liver: Other changes.
- Toxicologist., Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311, Vol/p/yr: 72,315, 2003

Standard Draize Test, Skin, Species: Rabbit, 20.00 MG, 24 H, Moderate.
Result:
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,187, 1986

Standard Draize Test, Eyes, Species: Rabbit, 40.00 MG, Moderate.
Result:
Blood:Other hemolysis with or withot anemia.
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Union Carbide Data Sheet, Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817, Vol/p/yr: 3/24, 1970

Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, 24 H, Moderate.
Result:
Blood:Changes in serum composition (e.g.
Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Phosphatases.
Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Transaminases.
- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,187, 1986

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans
ACGIH A4 - Not Classifiable as a Human Carcinogen.

IARC has determined that the consumption of alcoholic beverages is casually related to the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus, and liver in humans. The carcinogenic response attributed to drinking alcoholic beverages has not be verified in studies with laboratory animals. Established uses of denatured ethanol and non-beverage use of pure ethanol are not considered to pose any significant cancer hazard.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Ethyl alcohol {Ethanol}	64-17-5	n.a.	1	A4	n.a.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	n.a.	2B	n.a.	n.a.
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	n.a.	n.a.	n.a.	n.a.
5. Heptane	142-82-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information

Ethanol:
TOXICITY:
LC50 Salmo gairdnerii (Rainbow trout) 13000 mg/L/96 hr at 12 deg C (95% Confidence limit 12000-16000 mg/L), wt 0.8 g /Static bioassay/
LC50 Pimephales promelas (fathead minnows) 15.3 g/L/96 hr (95% confidence limit 14.0-16.6 g/L); age 30 days old, water hardness 47.3 mg/L (CaCO3), temp 24.3 deg C, pH 7.60, dissolved oxygen 6.8 mg/L, alkalinity 43.7 mg/L (CaCO3); tank vol: 6.3 L; additions: 3.81 vol/day /Flow-through bioassay/
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, an extrapolated vapor pressure of 59.3 mm Hg at 25 deg C indicates that ethanol will exist solely in the vapor phase. Vapor phase ethanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 5X10-6 atm-cu m/mole. Ethanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation is expected to occur rapidly in the environment based on numerous screening tests using different types of inocula and incubation periods. Ethanol was degraded with half-lives on the order of a few days using microcosms constructed with a low organic sandy soil and groundwater, indicating it is unlikely to be persistent in the environment.
BIOACCUMULATIVE POTENTIAL: If released into water, ethanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, ethanol is expected to have very high mobility based upon an estimated Koc of 1.
OTHER ADVERSE EFFECTS: No data.

Ethyl Acetate:
Toxicity:
LC50 HETEROPNEUSTES FOSSILIS (COMMON INDIAN CATFISH) 212.5 PPM/96 HR /
LC50 Pimephales promelas (fathead minnow) 230 mg/l/96 hr
EC50 Pimephales promelas (fathead minnow) 220 mg/l/96 hr
Persistance and Degradability: Biodegradation is expected to be an important process in both soil and water.
Bioaccumulative Potential: If released into water, ethyl acetate is not expected to adsorb to suspended solids and sediment in water based on the estimated Koc. An estimated BCF of 3.2 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in Soil: Expected to have high mobility based upon an estimated Koc of 59.

Methanol:
TOXICITY: Methanol is of low toxicity to aquatic organisms. LC50 Pimephales promelas (fathead minnows) 29.4 g/L/96 hr, (28-29 days old), confidence limit= 28.5-30.4; Test conditions: Water temp= 25 deg C, dissolved oxygen= 7.3 mg/L, water hardness= 43.5 mg/l calcium carbonate, alkalinity= 46.6 calcium carbonate, tank volume= 6.3 L, additions= 5.71 V/D, pH= 7.66 (0.03).
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, a vapor pressure of 127 mm Hg at 25 deg C indicates that methanol will exist solely in the vapor phase. Vapor phase methanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 4.55X10-6 atm-cu m/mole. Methanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation of methanol in soils is expected to occur rapidly based on half-lives in a sandy silt loam from Texas and a sandy loam from Mississippi of 1 and 3.2 days, respectively. If released into

water, methanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 3 and 35 days, respectively. Biodegradation is expected to occur in natural waters since methanol is degraded quickly in soils and was biodegraded rapidly in various aqueous screening tests using sewage seed or activated sludge. Hydrolysis of methanol and photolysis in sunlit surface waters are not expected since methanol lacks functional groups that are susceptible to hydrolysis or photolysis under environmental conditions.
BIOACCUMULATIVE POTENTIAL: BCF values of less than 10, measured in fish suggests bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, methanol is expected to have very high mobility based upon an estimated Koc of 1.

Methyl Isobutyl Ketone:
Toxicity:
LC50 fathead minnow 96 hr 780 mg/L
LC50 water flea 48 hr >1,000 mg/L
LC50 bacteria 16 hr >1,000 mg/L
Persistance and Degradability: A biodegradation rate of 0.24 1/hr using activated sludge suggests that biodegradation is an important environmental fate process.
Bioaccumulative Potential: An estimated BCF of 2 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in Soil: Expected to have high mobility based upon an estimated Koc of 120.

Results of PBT and vPvB assessment

CAS# 67-56-1:
LC50, Fathead Minnow (Pimephales promelas), 28400. MG/L, 24 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Fathead Minnow (Pimephales promelas), 28400. MG/L, 48 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Fathead Minnow (Pimephales promelas), 28100. MG/L, 96 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Water Flea (Daphnia magna), larva(e), 100000. UG/L, 96 H, Mortality, Water temperature: 20 C C, pH: 8.50.
Result:
Sex Effects.
- Simultaneous Evaluation of the Acute Effects of Chemicals on Seven Aquatic Species, Ewell, W.S., J.W. Gorsuch, R.O. Kringle, K.A. Robillard, and R.C. Spiegel, 1986

LC50, Water Flea (Daphnia magna), neonate, 4816. MG/L, 24 H, Mortality, Water temperature: 20 C C.
Result:
Age Effects.
- Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?, Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares, 2000

LC50, Water Flea (Daphnia magna), neonate, 3289. MG/L, 48 H, Mortality, Water temperature: 20 C C.
Result:
Age Effects.
- Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?, Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares, 2000

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name	Alcohols, n.o.s. (Ethyl Alcohol, Methanol)
DOT Hazard Class:	3
DOT Hazard Label:	FLAMMABLE LIQUID
UN/NA Number:	UN1987
Packing Group:	II

Additional Transport Information

The transportation information listed above is suitable for all modes of transportation. IMO/IMDG, ICAO/IATA, 49 CFR

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper / supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	No	No
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	No	Yes 5000 LB	Yes	Yes
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	No	Yes 5000 LB	No	No
5. Heptane	142-82-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	Inventory	No

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	HAP	No	Inventory	Yes
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	HAP	No	Inventory	Yes
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	No	No	Inventory, 4 Test	No
5. Heptane	142-82-5	No	No	Inventory, 4 Test, 8A PAIR	No

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard

[X] Yes [ ] No Chronic (delayed) Health Hazard

[X] Yes [ ] No Fire Hazard

[ ] Yes [X] No Sudden Release of Pressure Hazard

[ ] Yes [X] No Reactive Hazard

Regulatory Information Statement

All components of this material are listed on the TSCA Inventory or are exempt.

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Revision Date: 04/15/2013

KS-3 Premium Stripper

QKS3 **Quart**
GKS3 **Gallon**



REGULATORY DATA SHEET

VOC Content: 14.5% by wt 174 g/L

VOC Product Categories	Geographic Region	VOC Limit
Paint Remover	CA, CT, DE, IL, ME, MD, MA, NH, NJ, NY, OH, PA, RI, VA	50% by wt

SALES BANS: None

Future Limits: None

CPSIA Compliance Certificate

This Product Certification is provided to meet the requirements of the Consumer Product Safety Improvement Act of 2008. WM Barr & Company ("Barr") hereby certifies that the product identified below complies with the regulations, rules, and/or standards identified below.

Product: ***Klean Strip S-L-X Denatured Alcohol***

I. Laws and Regulations for which compliance is certified

- Federal Hazardous Substance Act – 16 CFR Part 1500
- Poison Prevention Packaging Act – 16 CFR Part 1700

II. Party Certifying Compliance

WM Barr & Company, Inc.
6750 Lenox Center Court, Suite 200
Memphis, TN 38115
(901) 775-0100

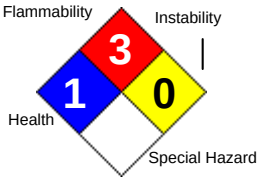
III. Date and Place of Manufacture

WM Barr & Company, Inc.
Presidents Island Industrial Park
2105 Channel/2170 Buoy
Memphis, TN 38113

Date of manufacture for any unit of product is date-coded on the container.

SAFETY DATA SHEET
Denatured Alcohol

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE		X



Printed: 04/15/2013
Revision: 04/15/2013
Supercedes Revision: 06/08/2012

1. Product and Company Identification

Product Code: 1625.6

Product Name: Denatured Alcohol

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Synonyms

CSL26, DSL26, GSL26, QSL26

2. Hazards Identification

GHS Classification

GHS Hazard Phrases

No data available.

GHS Precaution Phrases

No data available.

GHS Response Phrases

No data available.

GHS Storage and Disposal Phrases

No data available.

Potential Health Effects (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, irritation to the eyes, drowsiness, nausea, other central nervous system effects, spotted or blurry vision, dilation of pupils, and convulsions.

Skin Contact Acute Exposure Effects:
May cause irritation, drying of skin, redness, and dermatitis. May cause symptoms listed under inhalation. May be absorbed through damaged skin.

Eye Contact Acute Exposure Effects:
May cause irritation.

Ingestion Acute Exposure Effects:
Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May produce fluid in the lungs and pulmonary edema. May cause dizziness, headache, nausea, drowsiness, loss of coordination, stupor, reddening of face and or neck, liver, kidney and heart damage, coma, and death. May produce symptoms listed under inhalation.

Chronic Exposure Effects:
May cause symptoms listed under inhalation, dizziness, fatigue, tremors, permanent central nervous system changes, blindness, pancreatic damage, and death.

Target Organs:
Liver, kidneys, pancreas, heart, lungs, brain, central nervous system, eyes

Medical Conditions Generally Aggravated By Exposure

Diseases of the liver, skin, lung, kidney, central nervous system, pancreas, and heart; asthma; inflammatory or fibrotic pulmonary disease; any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease, or anemias

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration
1. Ethyl alcohol {Ethanol}	64-17-5	40.0 -50.0 %
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	50.0 -55.0 %
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	1.0 -4.0 %
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	0.5 -1.5 %
5. Heptane	142-82-5	0.5 -1.5 %

4. First Aid Measures

Emergency and First Aid Procedures

Skin:
Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Note to Physician

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further instructions.

Signs and Symptoms Of Exposure

See Potential Health Affects

5. Fire Fighting Measures

Flammability Classification: OSHA Class IB

Flash Pt: 45 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined area. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

Vapors are heavier than air. Vapor may travel considerable distance to source of ignition and flash back.

Hazardous Combustion Products

carbon monoxide, carbon dioxide

Suitable Extinguishing Media

Use carbon dioxide, dry powder, or alcohol resistant foam.

Unsuitable Extinguishing Media

Water may be ineffective. Solid streams of water will likely spread the fire.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Vapors are heavier than air. Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms where vapors can accumulate. Vapors can accumulate and explode if ignited.

Do not use this product if the work area is not well ventilated. Use only with adequate ventilation to prevent build up of vapors.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Use proper bonding and grounding when transferring material. Be aware of static electricity generation when handling material.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Ethyl alcohol {Ethanol}	64-17-5	PEL: 1000 ppm	TLV: 1000 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	PEL: 100 ppm	TLV: 50 ppm STEL: 75 ppm	No data.
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	PEL: 400 ppm	TLV: 400 ppm	No data.
5. Heptane	142-82-5	PEL: 500 ppm	TLV: 400 ppm	No data.

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Chemical splash goggles should be worn to prevent eye contact.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile, natural rubber, and neoprene will provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices

Wash hands thoroughly after use and before eating, drinking, smoking, or using the restroom.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	150 F
Autoignition Pt:	No data.
Flash Pt:	45 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Specific Gravity (Water = 1):	0.7934 - 0.8108
Density:	6.646 LB/GL
Vapor Pressure (vs. Air or mm Hg):	76 MM HG at 68 F
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate:	> 1
Solubility in Water:	No data.
Percent Volatile:	100 % by weight.
VOC / Volume:	790 G/L

Appearance and Odor

Water white, alcohol odor

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents, strong acids, reactive metals, halogens, strong inorganic acids, and aldehydes.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Reactions

No data available.

11. Toxicological Information

Toxicological Information

Ethanol:
ACUTE TOXICITY:
LD50 Rat oral 7060 mg/kg
LC50 Rat inhalation 20000 ppm/ 10 hr
SKIN CORROSION / IRRITATION: Skin irritant.
SERIOUS EYE DAMAGE / IRRITATION: Eye irritant. Will cause burning and stinging.
RESPIRATORY OR SKIN SENSITIZATION: Ethanol has been shown to have a weak skin sensitizing potential in a very small percentage of the population.

ASPIRATION HAZARD: No data.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: The clinical features of ethanol intoxication in a nontolerant individual are related to blood alcohol levels: at 50 to 150 mg/dL (0.05 to 0.15%), there is mild intoxication: slight impairment of visual acuity, muscular incoordination, and reaction time; and mood personality, and behavioral changes; at 150 to 300 mg/dL (0.15 to 0.30%), moderate intoxication occurs, resulting in visual impairment, sensory loss, muscular incoordination, slowed reaction time, and slurred speech; at 300 to 500 mg/dL (0.30 to 0.50%), there is severe intoxication characterized by marked muscular incoordination, blurred or double vision, sometimes stupor and hypothermia, vomiting and nausea, and occasional hypoglycemia and convulsions; and at > 400 mg/dL (0.40%), there are coma, respiratory depression, hypotension and hypothermia, and death from respiratory or circulatory failure or as a result of aspiration of stomach contents in the absence of a gag reflex.
DEVELOPMENTAL/REPRODUCTIVE: Prenatal exposure to ethanol (as alcoholic beverages) is associated with a distinct pattern of congenital malformations that have been collectively termed the fetal alcohol syndrome. There have been no reports of fetal alcohol syndrome as a result of industrial exposure by the oral, dermal, or inhalation routes.
CARCINOGEN STATUS: Not classifiable as a human carcinogen.

Ethyl Acetate:
ACUTE TOXICITY:
LD50, rat, oral, 5,600 mg/kg
LC50, rat, inhalation, 16,000 ppm, 6 hr
LD50, rabbit, skin, >20 mL/kg
SKIN CORROSION / IRRITATION: Causes slight skin irritation.
SERIOUS EYE DAMAGE / IRRITATION: Causes eye irritation.
RESPIRATORY OR SKIN SENSITIZATION: Not a sensitizer.
ASPIRATION HAZARD: No data.
MUTAGENIC DATA: Ethyl acetate was negative for mutagenicity in Salmonella typhimurium assays.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: High concentrations may cause CNS depression.
DEVELOPMENTAL/REPRODUCTIVE: No data.
CARCINOGEN STATUS: No data.

Heptane:
LD50 Mouse iv 222 mg/kg
LD50 Mouse inhalation 75 g/cu m/2 hr
LC50 Rat inhalation 103 g/cu m/4 hr

Methanol:
ACUTE TOXICITY:
LD50 Rat oral 5628 mg/kg
LC50 Rat inhalation 64000 ppm/4 hr
LC50 Rat inhalation 87.5 mg/L/6 hr
LD50 Mouse oral 7300 mg/kg
SKIN CORROSION / IRRITATION: LD50 Rabbit dermal 15,800 mg/kg bw
SERIOUS EYE DAMAGE / IRRITATION: Methanol is a mild to moderate eye irritant.
RESPIRATORY OR SKIN SENSITIZATION: Not a respiratory or skin sensitizer.

ASPIRATION HAZARD: Methanol presents an aspiration hazard.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: Overexposure to methanol has been suggested as causing central nervous system damage in laboratory animals.
DEVELOPMENTAL/REPRODUCTIVE: The inhalation of methanol by pregnant rodents throughout the period of embryogenesis induces a wide range of concentration-dependent teratogenic and embryolethal effects. Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.
CARCINOGEN STATUS: There is no evidence from animal studies to suggest methanol is a carcinogen.

Methyl Isobutyl Ketone:
LD50 Rabbit dermal >16000 mg/kg bw
LC50 Rat inhalation 8.2-16.4 mg/L/4 hr
LD50 Mouse ip 590 mg/kg bw
LD50 Guinea pig ip 0.919 mL/kg
LC50 Mouse inhalation, CF-1, 74.2 + or - 25.8 mg/L/45 min
LD50 Rat ip 1.14 mL/kg
LD50 Mouse oral 2850 mg/kg bw
LD50 Mouse oral 1900 mg/kg bw
LD50 Rat oral 4600 mg/kg bw
LD50 Rat oral 2.08 g/kg

CAS# 67-56-1:
Reproductive Effects:, TDLo, Oral, Rat, 42.00 mL/kg, 21 day after birth.
Result:
Effects on Newborn: Behavioral.
- Neurotoxicology and Teratology., Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, Vol/p/yr: 24,519, 2002

Mutagenicity:, Mutation test: DNA damage., Oral, Rat, 10.00 UMOL/KG.
Result:
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.
Tumorigenic:Tumors at site of application.
- Environmental Mutagenesis., For publisher information, see EMMUEG, New York, NY, Vol/p/yr: 4,317, 1982

Acute toxicity, LD50, Oral, Rat, 5628. MG/KG.
Result:
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
- Gigiena Truda i Professional'nye Zabolevaniya.(Labor Hygiene and Occupational Disease), V/O Mezhdunarodnaya Kniga, Moscow 113095 Russia, Vol/p/yr: 19(11),27, 1975

Acute toxicity, LC50, Inhalation, Rat, 64000. PPM, 4 H.
Result:
Behavioral: Altered sleep time (including change in righting reflex).
Behavioral: Somnolence (general depressed activity).
Lungs, Thorax, or Respiration:Dyspnea.
- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ., Bethlehem, PA 18015, Vol/p/yr: 1,74, 1974

Acute toxicity, TDLo, Oral, Rat, 3.000 gm/kg.
Result:
Liver: Other changes.
- Toxicologist., Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311, Vol/p/yr: 72,315, 2003

Standard Draize Test, Skin, Species: Rabbit, 20.00 MG, 24 H, Moderate.
Result:
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,187, 1986

Standard Draize Test, Eyes, Species: Rabbit, 40.00 MG, Moderate.
Result:
Blood:Other hemolysis with or withot anemia.
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Union Carbide Data Sheet, Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817, Vol/p/yr: 3/24, 1970

Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, 24 H, Moderate.
Result:
Blood:Changes in serum composition (e.g.
Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Phosphatases.
Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Transaminases.
- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,187, 1986

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans
ACGIH A4 - Not Classifiable as a Human Carcinogen.

IARC has determined that the consumption of alcoholic beverages is casually related to the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus, and liver in humans. The carcinogenic response attributed to drinking alcoholic beverages has not be verified in studies with laboratory animals. Established uses of denatured ethanol and non-beverage use of pure ethanol are not considered to pose any significant cancer hazard.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Ethyl alcohol {Ethanol}	64-17-5	n.a.	1	A4	n.a.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	n.a.	2B	n.a.	n.a.
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	n.a.	n.a.	n.a.	n.a.
5. Heptane	142-82-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information

Ethanol:
TOXICITY:
LC50 Salmo gairdnerii (Rainbow trout) 13000 mg/L/96 hr at 12 deg C (95% Confidence limit 12000-16000 mg/L), wt 0.8 g /Static bioassay/
LC50 Pimephales promelas (fathead minnows) 15.3 g/L/96 hr (95% confidence limit 14.0-16.6 g/L); age 30 days old, water hardness 47.3 mg/L (CaCO3), temp 24.3 deg C, pH 7.60, dissolved oxygen 6.8 mg/L, alkalinity 43.7 mg/L (CaCO3); tank vol: 6.3 L; additions: 3.81 vol/day /Flow-through bioassay/
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, an extrapolated vapor pressure of 59.3 mm Hg at 25 deg C indicates that ethanol will exist solely in the vapor phase. Vapor phase ethanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 5X10-6 atm-cu m/mole. Ethanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation is expected to occur rapidly in the environment based on numerous screening tests using different types of inocula and incubation periods. Ethanol was degraded with half-lives on the order of a few days using microcosms constructed with a low organic sandy soil and groundwater, indicating it is unlikely to be persistent in the environment.
BIOACCUMULATIVE POTENTIAL: If released into water, ethanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, ethanol is expected to have very high mobility based upon an estimated Koc of 1.
OTHER ADVERSE EFFECTS: No data.

Ethyl Acetate:
Toxicity:
LC50 HETEROPNEUSTES FOSSILIS (COMMON INDIAN CATFISH) 212.5 PPM/96 HR /
LC50 Pimephales promelas (fathead minnow) 230 mg/l/96 hr
EC50 Pimephales promelas (fathead minnow) 220 mg/l/96 hr
Persistance and Degradability: Biodegradation is expected to be an important process in both soil and water.
Bioaccumulative Potential: If released into water, ethyl acetate is not expected to adsorb to suspended solids and sediment in water based on the estimated Koc. An estimated BCF of 3.2 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in Soil: Expected to have high mobility based upon an estimated Koc of 59.

Methanol:
TOXICITY: Methanol is of low toxicity to aquatic organisms. LC50 Pimephales promelas (fathead minnows) 29.4 g/L/96 hr, (28-29 days old), confidence limit= 28.5-30.4; Test conditions: Water temp= 25 deg C, dissolved oxygen= 7.3 mg/L, water hardness= 43.5 mg/l calcium carbonate, alkalinity= 46.6 calcium carbonate, tank volume= 6.3 L, additions= 5.71 V/D, pH= 7.66 (0.03).
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, a vapor pressure of 127 mm Hg at 25 deg C indicates that methanol will exist solely in the vapor phase. Vapor phase methanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 4.55X10-6 atm-cu m/mole. Methanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation of methanol in soils is expected to occur rapidly based on half-lives in a sandy silt loam from Texas and a sandy loam from Mississippi of 1 and 3.2 days, respectively. If released into

water, methanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 3 and 35 days, respectively. Biodegradation is expected to occur in natural waters since methanol is degraded quickly in soils and was biodegraded rapidly in various aqueous screening tests using sewage seed or activated sludge. Hydrolysis of methanol and photolysis in sunlit surface waters are not expected since methanol lacks functional groups that are susceptible to hydrolysis or photolysis under environmental conditions.
BIOACCUMULATIVE POTENTIAL: BCF values of less than 10, measured in fish suggests bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, methanol is expected to have very high mobility based upon an estimated Koc of 1.

Methyl Isobutyl Ketone:
Toxicity:
LC50 fathead minnow 96 hr 780 mg/L
LC50 water flea 48 hr >1,000 mg/L
LC50 bacteria 16 hr >1,000 mg/L
Persistance and Degradability: A biodegradation rate of 0.24 1/hr using activated sludge suggests that biodegradation is an important environmental fate process.
Bioaccumulative Potential: An estimated BCF of 2 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in Soil: Expected to have high mobility based upon an estimated Koc of 120.

Results of PBT and vPvB assessment

CAS# 67-56-1:
LC50, Fathead Minnow (Pimephales promelas), 28400. MG/L, 24 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Fathead Minnow (Pimephales promelas), 28400. MG/L, 48 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Fathead Minnow (Pimephales promelas), 28100. MG/L, 96 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Water Flea (Daphnia magna), larva(e), 100000. UG/L, 96 H, Mortality, Water temperature: 20 C C, pH: 8.50.
Result:
Sex Effects.
- Simultaneous Evaluation of the Acute Effects of Chemicals on Seven Aquatic Species, Ewell, W.S., J.W. Gorsuch, R.O. Kringle, K.A. Robillard, and R.C. Spiegel, 1986

LC50, Water Flea (Daphnia magna), neonate, 4816. MG/L, 24 H, Mortality, Water temperature: 20 C C.
Result:
Age Effects.
- Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?, Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares, 2000

LC50, Water Flea (Daphnia magna), neonate, 3289. MG/L, 48 H, Mortality, Water temperature: 20 C C.
Result:
Age Effects.
- Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?, Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares, 2000

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name	Alcohols, n.o.s. (Ethyl Alcohol, Methanol)
DOT Hazard Class:	3
DOT Hazard Label:	FLAMMABLE LIQUID
UN/NA Number:	UN1987
Packing Group:	II

Additional Transport Information

The transportation information listed above is suitable for all modes of transportation. IMO/IMDG, ICAO/IATA, 49 CFR

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper / supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	No	No
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	No	Yes 5000 LB	Yes	Yes
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	No	Yes 5000 LB	No	No
5. Heptane	142-82-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	Inventory	No

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	HAP	No	Inventory	Yes
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	HAP	No	Inventory	Yes
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	No	No	Inventory, 4 Test	No
5. Heptane	142-82-5	No	No	Inventory, 4 Test, 8A PAIR	No

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard

[X] Yes [ ] No Chronic (delayed) Health Hazard

[X] Yes [ ] No Fire Hazard

[ ] Yes [X] No Sudden Release of Pressure Hazard

[ ] Yes [X] No Reactive Hazard

Regulatory Information Statement

All components of this material are listed on the TSCA Inventory or are exempt.

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Revision Date: 04/15/2013

KS-3 Premium Stripper

QKS3 **Quart**
GKS3 **Gallon**



REGULATORY DATA SHEET

VOC Content: 14.5% by wt 174 g/L

VOC Product Categories	Geographic Region	VOC Limit
Paint Remover	CA, CT, DE, IL, ME, MD, MA, NH, NJ, NY, OH, PA, RI, VA	50% by wt

SALES BANS: None

Future Limits: None

CPSIA Compliance Certificate

This Product Certification is provided to meet the requirements of the Consumer Product Safety Improvement Act of 2008. WM Barr & Company ("Barr") hereby certifies that the product identified below complies with the regulations, rules, and/or standards identified below.

Product: ***Klean Strip Paint Thinner***

I. Laws and Regulations for which compliance is certified

- Federal Hazardous Substance Act – 16 CFR Part 1500
- Poison Prevention Packaging Act – 16 CFR Part 1700

II. Party Certifying Compliance

WM Barr & Company, Inc.
6750 Lenox Center Court, Suite 200
Memphis, TN 38115
(901) 775-0100

III. Date and Place of Manufacture

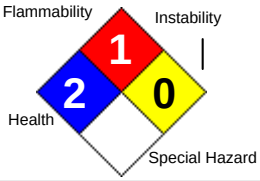
WM Barr & Company, Inc.
Presidents Island Industrial Park
2105 Channel/2170 Buoy
Memphis, TN 38113

Date of manufacture for any unit of product is date-coded on the container.

MATERIAL SAFETY DATA SHEET
Klean Strip Adhesive Remover / Klean Strip Premium Stripper



HEALTH	2
FLAMMABILITY	1
PHYSICAL	0
PPE	X



Printed: 05/17/2011
Revision: 05/17/2011
Supercedes Revision: 10/13/2009

1. Product and Company Identification

Product Code: 4015.26

Product Name: Klean Strip Adhesive Remover / Klean Strip Premium Stripper

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Intended Use: Removal of adhesives, mastics, & contact cement from wood, concrete, metal and masonry.

Synonyms

GKAS94325, QKAS94326, QKAS94326L, GKS3, QKS3, QKS3L, QKS34, PA11185

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA TWA	ACGIH TWA	Other Limits
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	60.0 -100.0 %	25 ppm	50 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	10.0 -30.0 %	200 ppm	200 ppm	No data.
3. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	8052-41-3	1.0 -5.0 %	500 ppm	100 ppm	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	PA8050000	125 ppm (15 min)	No data.	No data.	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	PC1400000	No data.	No data.	250 ppm	No data.
3. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	WJ8925000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Danger! Poison. May be fatal or cause blindness if swallowed. Eye and skin irritant. Vapor Harmful.

Use only with adequate ventilation to prevent buildup of vapors. If the work area is not well ventilated, do not use this product.

Keep out of reach of children.

Potential Health Effects (Acute and Chronic)

INHALATION ACUTE EXPOSURE EFFECTS:
Vapor harmful. May cause upper respiratory tract irritation and central nervous system depression with symptoms such as confusion, lightheadedness, nausea, vomiting, headache, drowsiness, and fatigue. Mist or

vapor can irritate the throat and lungs. Causes formation of carbon monoxide in blood which may affect the cardiovascular system and central nervous system. Continued exposure may cause unconsciousness and even death. Intentional misuse of this product by deliberately concentrating and inhaling the vapors can be harmful or fatal. Concurrent exposure to carbon monoxide, smoking, and physical activity may increase the level of carboxyhemoglobin levels in the blood resulting in additive effects. This product is a simple asphyxiant.

SKIN CONTACT ACUTE EXPOSURE EFFECTS:
This product is a skin irritant. Product may be absorbed through the skin. Harmful if absorbed through the skin. Effects may range from mild irritation to severe pain, and possibly burns, depending on the intensity of contact. Prolonged or repeated contact may dry the skin and cause irritation. Symptoms include redness, itching, burning, drying and cracking of the skin, and skin burns.

EYE CONTACT ACUTE EXPOSURE EFFECTS:
This material is an eye irritant. Vapors may irritate the eyes. Contact may cause tearing, redness, a stinging or burning feeling, swelling, and blurred vision.

INGESTION ACUTE EXPOSURE EFFECTS:
Poison. May be fatal or cause blindness if swallowed. May cause nausea or vomiting. Aspiration hazard. This material may be aspirated into the lungs during vomiting. If vomiting results in aspiration, chemical pneumonia could occur. It can be readily absorbed by the stomach and intestinal tract. Absorption through the gastrointestinal tract may produce central nervous system depression and systemic effects. Swallowing this material may irritate the mucous membranes of the mouth, throat, and esophagus. May cause cyanosis (blue coloring of the skin and nails from lack of oxygen).

CHRONIC EXPOSURE EFFECTS:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged skin contact may cause irritation, redness, swelling and possible tissue destruction. Prolonged or repeated contact may cause dermatitis. Prolonged skin contact may result in absorption of a harmful amount of this material. May cause liver damage. May cause cancer based on animal data (see Section 11. Toxicological Information).

Target Organs:
Blood, central nervous system, liver, skin, cardiovascular system, eyes, respiratory system, lungs.

Signs and Symptoms Of Exposure

See Potential Health Effects.

Medical Conditions Generally Aggravated By Exposure

Heart of cardiovascular disorders, kidney disorders, liver disorders, central nervous system disorders, respiratory system (including asthma and other breathing disorders), skin disorders and allergies.

Alcohol may enhance the toxic effects of methylene chloride exposure. May cross the placenta. May be excreted in breast milk.

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

4. First Aid Measures

Emergency and First Aid Procedures

INHALATION:
If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

SKIN CONTACT:

Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

EYE CONTACT:
Immediately flush with water, remove any contact lens, continue flushing with water for at least 15 minutes, then get medical attention immediately.

INGESTION:
Do not induce vomiting, unless directed to by medical personnel. Call your poison control center, hospital, emergency room, or physician immediately for instructions. Do not give anything by mouth to an unconscious person.

Note to Physician

This product contains methylene chloride and methanol.

This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis.

Methylene Chloride is an aspiration hazard. Risk of aspiration must be weighed against possible toxicity of the material when determining whether to induce emesis or to perform gastric lavage. This material sensitizes the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmia in individuals exposed to this material. This material is metabolized to carbon monoxide. Consequently, elevations in carboxyhemoglobin as high as 50% have been reported, and levels may continue to rise for several hours after exposure has ceased. Data in experimental animals suggest there is a narrow margin between concentrations causing anesthesia and death. Adrenalin should never be given to a person overexposed to methylene chloride.

5. Fire Fighting Measures

Flammability Classification:	NFPA Class IIIB	
Flash Pt:	NP	
Explosive Limits:	LEL: No data.	UEL: No data.
Autoignition Pt:	No data available.	

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

No flash to boil.

Contact of liquid or vapor with flame or hot surfaces will produce toxic gases and a corrosive residue that will cause deterioration of metal.

Vapors are heavier than air and will tend to collect in low areas.

Hazardous Combustion Products

Thermal decomposition or combustion may produce hydrogen chloride, chlorine, phosgene, and oxides of carbon.

Extinguishing Media

Use carbon dioxide, dry powder, water spray, or foam.

Unsuitable Extinguishing Media

None known.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Isolate the immediate area. Prevent unauthorized entry. Eliminate all sources of ignition in area and downwind of the spill area. Stay upwind, out of low areas, and ventilate closed spaces before entering. All equipment used when handling this product must be grounded or non-sparking. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to compatible containers.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. A source of clean water should be kept in the immediate work area for flushing of the eyes and skin.

Keep away from heat, sparks, flame, and any other source of ignition.

Do not smoke when anywhere near this material.

Ground and bond containers when transferring material.

Do not use in confined spaces, basements, bathrooms, etc, where vapors can build up and explode if ignited by an ignition source.

Vapors are heavier than air and will collect in low areas.

Precautions To Be Taken in Storing

Store in a cool place in original container and protect from sunlight. Exposure to high temperatures or prolonged exposure to sun may cause can to leak or swell. Once opened, remover should be used within six months or properly disposed of to avoid can deterioration. Do not store near flames or at elevated temperatures.

Keep container tightly closed when not in use.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved self-contained breathing apparatus or powered air supply respirator or loose fitting hood.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Chemical goggles or face shields are recommended when splashing or spraying of chemical is possible. A faceshield provides more protection to help reduce chemical contact to the face and eyes.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Laminate film gloves offer the best protection. Other glove materials, such as nitrile rubber, neoprene, and PVC will be degraded by methylene chloride, but may provide protection for some amount of time, based on the type of glove and the conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Use only with adequate ventilation to prevent buildup of vapors. If work area is not well ventilated, do not use this product. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas.

Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Work/Hygienic/Maintenance Practices

A source of clean water should be available in the work area for flushing of the eyes and skin.

Wash hands thoroughly after use.
Do not eat, drink, or smoke in the work area.

Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use.

Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	NP
Specific Gravity (Water = 1):	1.138
Density:	9.462
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate (vs Butyl Acetate=1):	< 1

Solubility in Water: Slight

Percent Volatile: 97 % by weight.

VOC / Volume: 23 % WT

pH: 10.0 - 10.5

Appearance and Odor

Clear to white color.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents; bases; strong caustics; strong acids; oxygen; nitrogen peroxide; reactive metals such as aluminum and magnesium; sodium; potassium; and nitric acid.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide, hydrogen chloride, chlorine gas, and small quantities of phosgene.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

This product has not been tested as a whole. Information below will be for individual ingredients.

Methylene Chloride:
ACUTE TOXICITY:
LC50 Rat inhalation 52 mg/L 4 hrs
LD50 Rat oral 985-1600 mg/kg
SKIN CORROSION / IRRITATION:
810 mg/24 hr skin rabbit - severe
100 mg/24 hr skin rabbit - moderate
SERIOUS EYE DAMAGE / IRRITATION:
162 mg eyes rabbit - moderate
10 mg eyes rabbit - mild
500 mg/24 hr eyes rabbit - mild
RESPIRATORY OR SKIN SENSITIZATION: Not a respiratory or skin sensitizer.
ASPIRATION HAZARD: Methylene chloride does present an aspiration hazard.
MUTAGENIC DATA: Positive results have been observed in the Ames test. In mammalian systems, responses have generally been negative.
IMMUNOTOXICITY: A study found there was no evidence of harm to the immune system of laboratory animals or reduced ability to combat disease.
NEUROTOXICITY: Tests in rats indicate no significant neurotoxic effects after exposure to concentrations up to 2,000 ppm for 90 days. No neurotoxic effects have been observed in humans at typical occupational exposure levels.
DEVELOPMENTAL/REPRODUCTIVE: No significant developmental effects were observed in female rats and mice exposed to 1,250 ppm during gestation. A similar result was observed in rats exposed to 4,500 ppm before and during gestation. A two-generation inhalation study showed no adverse reproductive effects in rats exposed to as much as 1,500 ppm for 14 weeks.
CARCINOGEN STATUS: Methylene chloride is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that are not considered relevant

to worker exposure. Available epidemiological studies do not confirm an increased risk of cancer in humans. Available evidence suggests that this material is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

Methanol:
ACUTE TOXICITY:
LD50 Rat oral 5628 mg/kg
LC50 Rat inhalation 64000 ppm/4 hr
LC50 Rat inhalation 87.5 mg/L/6 hr
LD50 Mouse oral 7300 mg/kg
SKIN CORROSION / IRRITATION: LD50 Rabbit dermal 15,800 mg/kg bw
SERIOUS EYE DAMAGE / IRRITATION: Methanol is a mild to moderate eye irritant.
RESPIRATORY OR SKIN SENSITIZATION: Not a respiratory or skin sensitizer.
ASPIRATION HAZARD: Methanol presents an aspiration hazard.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: Overexposure to methanol has been suggested as causing central nervous system damage in laboratory animals.
DEVELOPMENTAL/REPRODUCTIVE: The inhalation of methanol by pregnant rodents throughout the period of embryogenesis induces a wide range of concentration-dependent teratogenic and embryolethal effects. Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.
CARCINOGEN STATUS: There is no evidence from animal studies to suggest methanol is a carcinogen.

Stoddard Solvent:
ACUTE TOXICITY:
LD50 Rat oral >34,600 mg/kg
LC50 Rat Inhalation >21,400 mg/m3 / 4 hrs
LD50 Rabbit skin 15,400 mg/kg
SKIN CORROSION / IRRITATION: Primary dermal studies (4 hr exposure) in rabbits utilizing mineral spirits containing less than 2% aromatics resulted in slight to moderate skin irritation.
SERIOUS EYE DAMAGE / IRRITATION: In a 15 minute inhalation period, eye irritation, characterized as a slight dryness, was reported in one of six volunteers (ages 22-61 years) at 150 ppm (860 mg/cu m). At 470 ppm (2700 mg/cu m), ocular irritation was reported by all six volunteers.
RESPIRATORY OR SKIN SENSITIZATION: Skin sensitization was not evident in animal studies.
ASPIRATION HAZARD: This material presents an aspiration hazard.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: Repeated exposure to elevated concentrations of hydrocarbon solvents can produce a variety of transient CNS effects (e.g., dizziness, headache, narcosis, etc.)
DEVELOPMENTAL/REPRODUCTIVE: There were no treatment-related effects on pregnancy rate, mortality or gross post mortem observations in animal studies utilizing mineral spirits containing less than 2% aromatics. In vivo and in vitro studies on mineral spirits containing up to 22% aromatics indicate that these products are not genotoxic.
CARCINOGEN STATUS: There is inadequate evidence for the carcinogenicity of petroleum solvents in humans. Animal studies have indicated that there may be some evidence of carcinogenic activity in male rats but no evidence in female rats. A low carcinogenic potential is suggested by a lack of genotoxic potential

identified in in vivo and in vitro genetic toxicity tests.
OTHER ADVERSE EFFECTS: Chronic effects of ingestion and subsequent aspiration of mineral spirits into the lungs may cause pneumatocele (lung cavity) formation and chronic lung dysfunction.

Chronic Toxicological Effects

Reports have associated repeated and prolonged occupational overexposure to solvents with irreversible brain and nervous system damage.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans
ACGIH A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	Possible	2B	A3	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	8052-41-3	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

No information available for this product as a whole.

Methylene Chloride:
TOXICITY: LC50 310 mg/L 96 hrs (static) Fathead Minnow; LC50 220 mg/L 96 hrs (static) Bluegill Sunfish; LC50 256 mg/L 96 hrs Mysid Shrimp
PERSISTENCE AND DEGRADABILITY: If released to air, a vapor pressure of 435 mm Hg at 25 deg C indicates dichloromethane will exist solely as a vapor in the ambient atmosphere. This material released to the atmosphere will degrade by reaction with hydroxyl radicals with a half-life of several months. It is not subject to direct photooxidation. On land is expected to evaporate rapidly into the atmosphere due to its high vapor pressure. it is poorly adsorbed to soil and can leach into the groundwater. Calculated Adsorption Coefficient (log KOC) is 1. This material is subject to rapid evaporation, with estimated evaporative half-lives ranging from 3 to 5.6 hours under moderate mixing conditions. This material has a negligible rate of hydrolysis. Biodegradation may occur in groundwater, but will be very slow compared with evaporation.
BIOACCUMULATIVE POTENTIAL: Bioconcentration potential in aquatic organisms is low with BCF of 2.
MOBILITY IN SOIL: If released to soil, dichloromethane is expected to have very high mobility based upon an estimated Koc of 24.
OTHER ADVERSE EFFECTS: No data.

Methanol:
TOXICITY: Methanol is of low toxicity to aquatic organisms. LC50 Pimephales promelas (fathead minnows) 29.4 g/L/96 hr, (28-29 days old), confidence limit= 28.5-30.4; Test conditions: Water temp= 25 deg C, dissolved oxygen= 7.3 mg/L, water hardness= 43.5 mg/l calcium carbonate, alkalinity= 46.6 calcium carbonate, tank volume= 6.3 L, additions= 5.71 V/D, pH= 7.66 (0.03).
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, a vapor pressure of 127 mm Hg at 25 deg C indicates that methanol will exist solely in the vapor phase. Vapor phase methanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 4.55X10-6 atm-cu m/mole. Methanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation of methanol in soils is expected to occur rapidly based on half-lives in a sandy silt loam from Texas and a sandy loam from Mississippi of 1 and 3.2 days, respectively. If released into

water, methanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 3 and 35 days, respectively. Biodegradation is expected to occur in natural waters since methanol is degraded quickly in soils and was biodegraded rapidly in various aqueous screening tests using sewage seed or activated sludge. Hydrolysis of methanol and photolysis in sunlit surface waters are not expected since methanol lacks functional groups that are susceptible to hydrolysis or photolysis under environmental conditions.
BIOACCUMULATIVE POTENTIAL: BCF values of less than 10, measured in fish suggests bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, methanol is expected to have very high mobility based upon an estimated Koc of 1.

Stoddard Solvent:
TOXICITY: This mixture contains components that are potentially toxic to freshwater and saltwater ecosystems. This material may be harmful to aquatic organisms and may cause long term adverse effects in the aquatic environment.
PERSISTENCE AND DEGRADABILITY: This material will normally float on water. Components will evaporate rapidly.
BIOACCUMULATIVE POTENTIAL: The octanol-water partition coefficient for this material is expected to be in the range of 2.1 to 5.
MOBILITY IN SOIL: No data.
OTHER ADVERSE EFFECTS: No data.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

Keep out of bodies of water.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name	Paint Related Material
DOT Hazard Class:	8
DOT Hazard Label:	CORROSIVE
UN/NA Number:	UN3066
Packing Group:	II

Additional Transport Information

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Limited quantities of 1 liter or less may be allowed depending on the mode of transportation. Refer to 49 CFR, IMDG Code or IATA Dangerous Goods Regulations for this information.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	No	Yes 1000 LB	Yes	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	8052-41-3	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Dichloromethane {Methylene chloride; R-30; Freon 30}	75-09-2	HAP, ODC ()	Yes	Inventory, 4 Test, 8A CAIR	Yes
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	HAP, ODC ()	No	Inventory	No
3. Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	8052-41-3	HAP, ODC ()	No	Inventory	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory: Chemical Listed in the TSCA Inventory.

5A(2): Chemical Subject to Significant New Rules (SNURS)

6A: Commercial Chemical Control Rules

8A: Toxic Substances Subject To Information Rules on Production

8A CAIR: Comprehensive Assessment Information Rules - (CAIR)

8A PAIR: Preliminary Assessment Information Rules - (PAIR)

8C: Records of Allegations of Significant Adverse Reactions

8D: Health and Safety Data Reporting Rules

8D TERM: Health and Safety Data Reporting Rule Terminations

12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical

CAA HAP: EPA Clean Air Act Hazardous Air Pollutant

CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard

[X] Yes [ ] No Chronic (delayed) Health Hazard

[ ] Yes [X] No Fire Hazard

[ ] Yes [X] No Sudden Release of Pressure Hazard

[ ] Yes [X] No Reactive Hazard

Regulatory Information

Methylene Chloride WHMIS Classification: D1B, D2A, D2B
Methylene Chloride WHMIS Health Effects Criteria Met by this Chemical:
D2B - Eye irritation - toxic - other
D2B - Skin irritation - toxic - other
D2A - Carcinogenicity - very toxic - other
D2B - Mutagenicity - toxic - other
D1B - TDG class 6.1 packing group III - toxic - immediate
Methylene Chloride WHMIS Ingredient Disclosure List: Included for disclosure at 0.1% or greater.

Methanol CAS Registry Number: 67-56-1
Methanol WHMIS Classification: B2, D1B, D2A, D2B
Methanol WHMIS Health Effects Criteria Met by this Chemical:
D1B - TDG class 6.1 packing group unknown - toxic - immediate
D2A - Teratogenicity and embryotoxicity - very toxic - other
D2B - Eye irritation - toxic - other
Methanol WHMIS Ingredient Disclosure List: Included for disclosure at 1% or greater. Meets criteria for disclosure at 0.1%.

Stoddard Solvent CAS# 8052-41-3
WHMIS Classification:
B3 - Flammable and combustible material - Combustible liquid
D2B - Poisonous and infectious material - Other effects - Toxic
WHMIS Health Effects Criteria Met by this Chemical: D2B - Skin irritation - toxic - other
WHMIS Ingredient Disclosure List: Included for disclosure at 1% or greater.

This product has been classified according to the hazard criteria of the Controlled Products Regulations.

Concentrations reported in section 2 are weight/weight.

Ingredients disclosed in section 2 are on Canadian DSL.

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Toluene

GTO42 **Gallon**
CTO42 **5 Gallon**



REGULATORY DATA SHEET

VOC Content:	100% by wt.	864g/L

VOC Product Categories	Geographic Region	VOC Limit
Industrial Maintenance Coating Thinner	California - SCAQMD[1]	N/A[2]

SALES BANS: None

Future Limits: California (state) and SCAQMD

Notes

1. SCAQMD contains Los Angeles, Orange, Riverside and San Bernadino counties
2. Industrial Maintenance Coatings Thinners are currently exempt from the VOC limits for Paint Thinners and Multipurpose Solvents

CPSIA Compliance Certificate

This Product Certification is provided to meet the requirements of the Consumer Product Safety Improvement Act of 2008. WM Barr & Company ("Barr") hereby certifies that the product identified below complies with the regulations, rules, and/or standards identified below.

Product: ***Klean Strip Toluene***

I. Laws and Regulations for which compliance is certified

- Federal Hazardous Substance Act – 16 CFR Part 1500
- Poison Prevention Packaging Act – 16 CFR Part 1700

II. Party Certifying Compliance

WM Barr & Company, Inc.
6750 Lenox Center Court, Suite 200
Memphis, TN 38115
(901) 775-0100

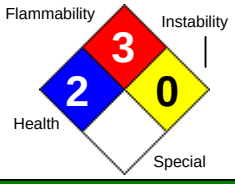
III. Date and Place of Manufacture

WM Barr & Company, Inc.
Presidents Island Industrial Park
2105 Channel/2170 Buoy
Memphis, TN 38113

Date of manufacture for any unit of product is date-coded on the container.

MATERIAL SAFETY DATA SHEET
TOLUENE

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZ.	0
PPE	G



Printed: 12/14/2005
Revision: 06/10/2005

1. Product and Company Identification

Product Code: CTO42
Product Name: TOLUENE
Reference #: 1645
Manufacturer Information
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Web site address: www.wmbarr.com

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA TWA	ACGIH TWA	Other Limits
1. Toluene	108-88-3	95.0 -100.0 %	200 ppm	50 ppm	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Toluene	XS5250000	500 ppm/(10min)	300 ppm	300 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger! Flammable. Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause flash fire or ignite explosively. Vapors may travel long distances to other areas and rooms away from work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling or building during use and until all vapors are gone from the work site and all areas away from the work site. Keep away from electrical outlets and switches. Beware of static electricity that may be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Health Hazards (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, depression of central nervous system, loss of appetite, fatigue, hallucinations. Severe overexposure may cause coma, anesthesia and irregular heartbeat, and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:
This product is a skin irritant. It may be absorbed through the skin. It may cause irritation, dermatitis, drying of skin, and numbness in fingers and arms. May increase severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:
This material is an eye irritant. May cause irritation and pain, conjunctivitis of eyes, burns, corneal ulcerations of the eye, stinging, redness, and tearing. Vapors or mist can irritate eyes.

Ingestion Acute Exposure Effects:
Harmful or fatal if swallowed. May cause headache, nausea, vomiting, burning sensation in mouth and stomach, loss of coordination, gastrointestinal irritation, diarrhea, loss of appetite, and coma.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause dizziness, headache, nausea, skin irritation, heart palpitations, permanent central nervous system changes, some loss of memory, kidney damage, and liver damage.

Signs and Symptoms Of Exposure

No data available.

Medical Conditions Generally Aggravated By Exposure

Diseases of the skin, liver, and kidneys.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E
PHYSICAL HAZARDS : N/E
TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:
If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin Contact:
Irritation may result. Immediately wash with soap and water.

Eye Contact:
Immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.

Ingestion:
Call you local poison control center, hospital emergency room, or physician immediately for instructions.

Note to Physician

Call your local poison control center for further information.

5. Fire Fighting Measures

Flammability Classification: OSHA Class IC
Flash Pt: 40.00 F Method Used: TCC
Explosive Limits: LEL: 1.00 UEL: No data.
Autoignition Pt: No data.

Special Fire Fighting Procedures

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spay to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Unusual Fire and Explosion Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Cleanup:
Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small Spills:
Take up liquid with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large Spills:
Dike far ahead of spill for later disposal.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users --Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provided protection against vapors.

Eye Protection

Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Ventilation

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate such as basements, bathrooms, or small enclosed areas. Whenever possible, use outdoors in an open area. If using indoors, open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- Stop -- ventilation is inadequate. Leave area immediately. If the work area is not well ventilated, then do not use this product. A dust mask does not provide protection against vapors.

9. Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid
Melting Point: No data.
Boiling Point: > 230.00 F
Autoignition Pt: No data.
Flash Pt: 40.00 F Method: TCC
Explosive Limits: LEL: 1.00 UEL: No data.
Specfic Gravity: 0.000000
Bulk Density: 7.189 LB/GA
Vapor Presure: No data.
Vapor Density: No data.
Evaporation Rate: No data.
Solubility in Water: No data.
Percent Volatile: 99.999 % by weight.
VOC / Volume: 880.0000 G/L
Corrosion Rate: No data.
pH: No data.
Appearance and Odor

No data available.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]
Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Toluene	108-88-3	No	Yes 1000 LB	Yes	Yes

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Toluene	108-88-3	HAP	Yes	8A CAIR	Yes

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

5A(2): Chemical Subject to Significant New Rules (SNURS)

6A: Commercial Chemical Control Rules

8A: Toxic Substances Subject To Information Rules on Production

8A CAIR: Comprehensive Assessment Information Rules - (CAIR)

8A PAIR: Preliminary Assessment Information Rules - (PAIR)

8C: Records of Allegations of Significant Adverse Reactions

8D: Health and Safety Data Reporting Rules

8D TERM: Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical

CAA HAP: EPA Clean Air Act Hazardous Air Pollutant

CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65: California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[ ] Yes [X] No Acute (immediate) Health Hazard
[ ] Yes [X] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Reactive Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

HEALTH SAFETY AND THE ENVIROMENT
Non-hazardous. Ensure good ventilation. Keep out of reach of children. Contact with eyes-wash immediately with warm water. Remove excess from tools and mixing vessels before washing in warm soapy water. Do not empty containers into drains or water courses.

SHEEN LEVEL Satin

DRYING TIME: Up to 24 Hours @ 20°C / 70°F
Low temperature/high humidity increases drying time. Air movement is essential for faster drying.

CURE TIME: Up to 7 days @ 20°C / 70°F

RECOAT TIME: Up to 24 Hours @ 20°C / 70°F
Minimum 24 hours. Test before applying further coats or applying protective vanish.

PACKAGING

500ml, 1L, 2L, 4L. US pint, US Quart, US gal. plastic containers

STORAGE

Store in unopened containers in a cool dry place away from direct sunlight.

The information supplied herein is accurate to the best if our knowledge. Since conditions and methods are beyond our control, no warranty is expressed or implied. You are advised to access the suitability of the product on a test area before application

Further information may be obtained from:

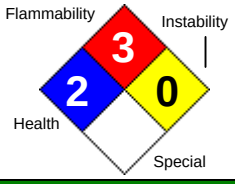
POLYVINE LIMITED
Severn Distribution Park
Sharpness, Berkeley,
Gloucestershire.
GL13 9UQ
United Kingdom

Telephone No. 0845 017 1671
International +44 845 017 1671
Fax: 0845 017 1670
Email info@polyvine.co.uk

Date of issue: October 2005

MATERIAL SAFETY DATA SHEET
TOLUENE

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZ.	0
PPE	G



Printed: 12/14/2005
Revision: 06/10/2005

1. Product and Company Identification

Product Code: CTO42
Product Name: TOLUENE
Reference #: 1645
Manufacturer Information
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892
Web site address: www.wmbarr.com

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA TWA	ACGIH TWA	Other Limits
1. Toluene	108-88-3	95.0 -100.0 %	200 ppm	50 ppm	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Toluene	XS5250000	500 ppm/(10min)	300 ppm	300 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger! Flammable. Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause flash fire or ignite explosively. Vapors may travel long distances to other areas and rooms away from work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling or building during use and until all vapors are gone from the work site and all areas away from the work site. Keep away from electrical outlets and switches. Beware of static electricity that may be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Health Hazards (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, depression of central nervous system, loss of appetite, fatigue, hallucinations. Severe overexposure may cause coma, anesthesia and irregular heartbeat, and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:
This product is a skin irritant. It may be absorbed through the skin. It may cause irritation, dermatitis, drying of skin, and numbness in fingers and arms. May increase severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:
This material is an eye irritant. May cause irritation and pain, conjunctivitis of eyes, burns, corneal ulcerations of the eye, stinging, redness, and tearing. Vapors or mist can irritate eyes.

Ingestion Acute Exposure Effects:
Harmful or fatal if swallowed. May cause headache, nausea, vomiting, burning sensation in mouth and stomach, loss of coordination, gastrointestinal irritation, diarrhea, loss of appetite, and coma.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause dizziness, headache, nausea, skin irritation, heart palpitations, permanent central nervous system changes, some loss of memory, kidney damage, and liver damage.

Signs and Symptoms Of Exposure

No data available.

Medical Conditions Generally Aggravated By Exposure

Diseases of the skin, liver, and kidneys.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E
PHYSICAL HAZARDS : N/E
TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:
If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin Contact:
Irritation may result. Immediately wash with soap and water.

Eye Contact:
Immediately flush with water, remove any contact lenses, continue flushing with water for at least 15 minutes, then get medical attention.

Ingestion:
Call you local poison control center, hospital emergency room, or physician immediately for instructions.

Note to Physician

Call your local poison control center for further information.

5. Fire Fighting Measures

Flammability Classification: OSHA Class IC
Flash Pt: 40.00 F Method Used: TCC
Explosive Limits: LEL: 1.00 UEL: No data.
Autoignition Pt: No data.

Special Fire Fighting Procedures

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spay to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Unusual Fire and Explosion Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Cleanup:
Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small Spills:
Take up liquid with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large Spills:
Dike far ahead of spill for later disposal.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users --Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provided protection against vapors.

Eye Protection

Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Ventilation

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate such as basements, bathrooms, or small enclosed areas. Whenever possible, use outdoors in an open area. If using indoors, open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- Stop -- ventilation is inadequate. Leave area immediately. If the work area is not well ventilated, then do not use this product. A dust mask does not provide protection against vapors.

9. Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid
Melting Point: No data.
Boiling Point: > 230.00 F
Autoignition Pt: No data.
Flash Pt: 40.00 F Method: TCC
Explosive Limits: LEL: 1.00 UEL: No data.
Specfic Gravity: 0.000000
Bulk Density: 7.189 LB/GA
Vapor Presure: No data.
Vapor Density: No data.
Evaporation Rate: No data.
Solubility in Water: No data.
Percent Volatile: 99.999 % by weight.
VOC / Volume: 880.0000 G/L
Corrosion Rate: No data.
pH: No data.
Appearance and Odor

No data available.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]
Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Toluene	108-88-3	No	Yes 1000 LB	Yes	Yes

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Toluene	108-88-3	HAP	Yes	8A CAIR	Yes

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

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8D TERM: Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical

CAA HAP: EPA Clean Air Act Hazardous Air Pollutant

CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65: California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[ ] Yes [X] No Acute (immediate) Health Hazard
[ ] Yes [X] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Reactive Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard

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TECHNICAL DATA SHEET

PRODUCT: POLYVINE SCUMBLE AND TROPICAL SCUMBLE

PRODUCT DESCRIPTION

A unique acrylic transparent glaze for decorative paint work. Dries to a durable water-resistant finish on a wide range of surfaces (test for adhesion). This interior exterior glaze is the first water-borne product to faithfully reproduce the beauty of traditional oil finishes.
The translucency of Scumble allows multiple finishes to be achieved, giving great depth.
For use in temperatures up to 21°C (70°F).
TROPICAL SCUMBLE For use in temperatures above 21°C (70°F).

SURFACE PREPARATION

Choose your base of emulsion/latex or eggshell acrylic paint.
Ensure the surface to be coated is clean and free from grease, wax or polish and completely cured. Applying Scumble over uncured base coat will result in sissing/reticulation,
When applied over emulsion/latex paint, it is possible that Scumble can draw certain stains through the paint, which were not otherwise be visible. In this case a stain sealer should be used.

APPLICATION

Polyvine Scumble can be applied by brush, or roller. Porous surfaces should be primed with Decorators Varnish diluted 10% with water, prior to application.
Ensure Acrylic Scumble is well mixed. Select base coat colour of Vinyl Silk Emulsion/Satin Latex or Acrylic Semi Gloss/ Eggshell. Apply base coat and allow to dry for a minimum of 24 hours with ventilation. Colour Scumble with Polyvine colourisers-mix thoroughly. Brush or roller the coloured Scumble liberally over the basecoat. Create the desired effect by breaking the surface with crumpled rag, bag, sponge, or Polyvine tools and brushes.

COVERAGE

Approx. 10-20 sq. m per litre. 108-215 sq. ft per US qt.

CLEAN UP

Any equipment used can be cleaned using soap and water before the clear coat dries. Wipe any excess off surfaces with a damp cloth. Any dried deposits will need a paint stripper to remove them.

HEALTH SAFETY AND THE ENVIROMENT
Non-hazardous. Ensure good ventilation. Keep out of reach of children. Contact with eyes-wash immediately with warm water. Remove excess from tools and mixing vessels before washing in warm soapy water. Do not empty containers into drains or water courses.

SHEEN LEVEL Satin

DRYING TIME: Up to 24 Hours @ 20°C / 70°F
Low temperature/high humidity increases drying time. Air movement is essential for faster drying.

CURE TIME: Up to 7 days @ 20°C / 70°F

RECOAT TIME: Up to 24 Hours @ 20°C / 70°F
Minimum 24 hours. Test before applying further coats or applying protective vanish.

PACKAGING

500ml, 1L, 2L, 4L. US pint, US Quart, US gal. plastic containers

STORAGE

Store in unopened containers in a cool dry place away from direct sunlight.

The information supplied herein is accurate to the best if our knowledge. Since conditions and methods are beyond our control, no warranty is expressed or implied. You are advised to access the suitability of the product on a test area before application

Further information may be obtained from:

POLYVINE LIMITED
Severn Distribution Park
Sharpness, Berkeley,
Gloucestershire.
GL13 9UQ
United Kingdom

Telephone No. 0845 017 1671
International +44 845 017 1671
Fax: 0845 017 1670
Email info@polyvine.co.uk

Date of issue: October 2005

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

PRODUCT **SCUMBLE & TROPICAL SCUMBLE**

COMPANY: **Polyvine Limited**, Severn Distribution Park, Sharpness, Berkeley, Glos. GL13 9UQ UK
Emergency Telephone 0845 017 1671 International +44 845 017 1671

2. COMPOSITION

Water based dispersion of methacrylic esters, with no hazard classification

Chemical characterisation:	Acrylic	
CAS N o:	Names:	Conc.

3. HAZARDS IDENTIFICATION

On available data this product has no hazard classification according to 88/379/EEC.

4. FIRST AID MEASURES

GENERAL: Immediately remove all contaminated clothing. In all cases of doubt, or when symptoms persist, seek proper medical attention. Never give anything by mouth to an unconscious person.
I**NHALATION**: Remove to fresh air, keep patient warm and at rest if breathing is irregular or stopped, administer artificial respiration. Giving nothing by mouth. If unconscious place in recovery position and seek medical advice.
EYE CONTACT: Holding eyelids apart, flush copiously with clean, fresh water for at least 10 minutes and seek medical advice.
SKIN CONTACT: Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleaner.
DO NOT use solvents or thinners.
INGESTION: If accidentally swallowed obtain medical attention. Keep at rest. DO NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Aqueous dispersions will not burn. Dried films are combustible and may emit noxious fumes. Water, foam, carbon dioxide or dry powder extinguishers are all suitable. Wear breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spillage should not be washed into any drain. Spillage should be soaked up with an inert absorbent (e.g. sand) for disposal.

7. HANDLING AND STORAGE

HANDLING

This product should be handled in accordance with good safety and hygiene practices. Small levels of volatile organic compounds may accumulate in the headspace of containers, which should be opened in ventilated surroundings.
STORAGE Sealed containers should be stored between 5 C and 40C. Bulk tanks should be externally vented.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS

Local exhaust ventilation may be required in circumstances where the product is sprayed, heated or dried.

PERSONAL PROTECTION

Respiratory	-	Masks, when spraying
Hand	-	Gloves, if risk of skin contact
Eye	-	Goggles, if risk of splashing
Skin	-	Standard industrial overalls if splashing

O.E.L.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	-	Milky liquid
Odour	-	Mild
PH	-	8.0
Boiling point	-	Approx. 100C (as water)
Flammability and Autoignition temp		N/A
Vapour pressure	-	23 mbar as water
Water solubility	-	Fully miscible
Relative density	-	Approx. 1.03 at 20 C (ISO 8962)

10. STABILITY AND REACTIVITY

This product is stable under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

INHALATION - May be irritating to respiratory system
INGESTION - May be harmful if swallowed
SKIN CONTACT- may cause skin irritation
LONG TERM EXPOSURE - No information available

12. ECOLOGICAL INFORMATION

Do not empty into waters and drains.

13. DISPOSAL INFORMATION

Product recommendation: Do not allow into drains or watercourses.
Empty containers are to be disposed according to official rules.
Contaminated packaging recommendation: Contaminated packaging must be emptied of all residues and, following appropriate cleaning, may be sent to approved recycling plant. Uncleaned packaging must be disposed of in the same manner as the medium.

14. TRANSPORT INFORMATION

This product is not classified hazardous for transportation.

15. REGULATORY INFORMATION

EEC Hazard Classification - None
The product contains only substances, which are on the European Inventory of Existing Chemical Substances (EINECS).

16. OTHER INFORMATION

The information provided in this Safety Data Sheet is based on data provided by sources considered to be reliable. This data is intended to enable safety assessment to be made and should not be construed as guaranteeing specific properties. Users are recommended to consult technical information sheets for advice on specific applications.
Further information may be obtained from:

POLYVINE LIMITED
Severn Distribution Park
Sharpness, Berkeley,
Gloucestershire.
GL13 9UQ
United Kingdom

Telephone No. 0845 017 1671
International +44 845 017 1671
Fax: 0845 017 1670
Email info@polyvine.co.uk

Date of issue: October 2005

ROHM AND HAAS

PARALOID™ B-72

Solid Grade Thermoplastic Acrylic Resin

Description

PARALOID B-72 general-purpose thermoplastic acrylic resin is similar to PARALOID B-66 acrylic resin but capable of forming softer films. The approximate hardness (KHN) is 10-11 compared to 12-13 for PARALOID B-66 resin.

PARALOID B-72 acrylic resin is unique in possessing a high tolerance for ethanol. The property allows its use in applications not tolerant of strong solvents. The alcohol dispersions may be cloudy or milky. However, they form clear, coherent films.

PARALOID B-72 has low reactivity with sensitive phosphorescent and luminescent pigments to produce stable, durable, non-yellowing coatings. It is compatible with vinyls, cellulosics, chlorinated rubbers, and silicones. It is well suited for white and metallic aerosols, clear coatings for wood, nitrocellulose modified coatings for general product finishing, pigment dispersion (fluorescent), flexographic printing inks, and gravure plastic coatings.

Solubility

Information about the solvent compatibility of PARALOID B-72 acrylic resin can be found in Rohm and Haas brochure 82A114—***PARALOID Solid Grade Resins, Solvent Selection Chart.***

Typical Properties

These properties are typical but do not constitute specifications.

Physical Form	Pellets
Bulk Density, 25°C, lb/gal	9.6
Solubility Parameter	9.3
Tg (ºC)	40
Ultimate Hardness of Clear Films, KHN	10 to 11
Chemical Composition	EMA Copolymer

Properties in White Lacquers[1]

Tukon Hardness		Whiteness		Cross Hatch[3]	
30 min. at 180°F	2.9	(K color low numbers best)		30 min. at 180°F	0
30 min. at 300°F	12.1	30 min. at 300°F	7.7	30 min. at 300°F	0
		16 hrs. at 350°F	11.8		
Pencil Hardness		Flexibility[2], 1/8, 1/4, 1/2		Mustard Staining	
30 min. at 180°F	H	inch mandrels		(30 minute exposure)	
30 min. at 300°F	H	30 min. at 180°F	0, 0, 0	30 min. at 180°F	Light
		30 min. at 300°F	4, 3, 2	30 min. at 300°F	Light
Gloss, 20°		Printing, 2 psi for		Gasoline Resistance	
30 min. at 180°F	77	1 hour at 140°F		(15 minute exposure)	
30 min. at 300°F	76	30 min. at 180°F	V. Heavy	30 min. at 180°F	Wipes Off
		30 min. at 300°F	Moderate	30 min. at 300°F	Wipes Off
Gloss, 60°		Knife Adhesion		Spray Conditions	
30 min. at 180°F	93	30 min. at 180°F	Very Good	Viscosity, No. 4 Ford Cup, sec.	15
30 min. at 300°F	92	30 min. at 300°F	Very Good	Solids Content, %	25.0

Note: Drying the coatings at 300°F for 30 minutes simulates final properties of the resin.

[1]The white lacquers were formulated at a titanium dioxide/binder ratio (solids basis) of 30/70. The properties were determined after coatings were sprayed on Bonderite 1000.

[2]The degree of cracking at the bend over each mandrel is rated on a 0 (no failure) to 10 (complete flaking) scale.

[3]The degree of flaking at the scribed cross hatch is rated on a 0 (no failure) to 5 (complete lift off) scale.

Additional Information

PARALOID B-65 is supplied in a powder form that is easily dissolved in aromatic hydrocarbons as well as a variety of esters and ketones.

The product detailed in this bulletin is supplied from our manufacturing facility in Louisville, Kentucky, USA with conformance to the requirements of ISO 9002 or to local equivalent quality protocols ensures consistently high standards, immaterial of the source, although the pack size and method of packaging may differ.

This product is available in Asia Pacific through Wilbur Ellis Co./Connell Bros. Co.

Safe Handling Information

Rohm and Haas Material Safety Data Sheets (MSDS) contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Rohm and Haas Company recommends that you have your local Rohm and Haas technical representatives supply you with MSDS on all our products before using them in your facilities. We also suggest that you contact the suppliers of other materials recommended for use with our products for appropriate health and safety regulations before use.

Chemical Registration

Many countries within the Asia-Pacific region require the registration of chemicals, either imported or produced locally, prior to their commercial use. Violation of these regulations may lead to substantial penalties imposed upon the user, the importer or manufacturer, and/or cessation of supply. It is in your interests to ensure that all chemicals used by you are registered. Rohm and Haas Company does not supply unregistered products unless permitted under limited sampling procedures as a precursor to registration.

Rohm and Haas Company makes no warranties, either expressed or implied, as to the accuracy or appropriateness of this data and expressly excludes any liability upon Rohm and Haas arising out of its use. We recommend that the prospective users determine for themselves the suitability of Rohm and Haas' materials and suggestions for any use prior to their adoption.

Suggestions for use of our products or the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent or as permission or license to use any patents of the Rohm and Haas Company. Material Safety Data Sheets outlining the hazards and handling methods for our products are available on request.

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All other trademarks shown in this bulletin are the property of the respective manufacturers or agents.

ROHM AND HAAS

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Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PARALOID (TM) B-72 100% Resin

Revision date: 09/26/2003

Supplier Rohm and Haas Company
100 Independence Mall West
Philadelphia, PA 19106-2399 United States of America

For non-emergency information contact: 215-592-3000

Emergency telephone number

Spill Emergency	215-592-3000
Health Emergency	215-592-3000
Chemtrec	800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Acrylic polymer(s)	Not Hazardous	99.0 - 100.0%
Individual residual monomers	Not Required	<=0.1%
Toluene	108-88-3	<=0.8%

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form	Granular solid
Colour	clear

Odour Acrylic odor

Hazard Summary	**CAUTION!** INHALATION OF DUST CAN CAUSE THE FOLLOWING: IRRITATION OF NOSE, THROAT, AND LUNGS HEADACHE NAUSEA MAY CAUSE EYE/SKIN IRRITATION.

Potential Health Effects

Primary Routes of Entry: Inhalation
Eye contact
Skin contact

Eyes: Monomer vapors from heated product can cause the following:
slight irritation

Skin: Prolonged or repeated skin contact can cause the following:
slight irritation

Inhalation: Inhalation of dust can cause the following:
irritation of nose, throat, and lungs
Inhalation of monomer vapor from heated product can cause the following:
May cause nose, throat, and lung irritation.
headache

nausea

Toluene	ACGIH	Not classifiable as a human carcinogen.
Toluene	US CA65CRT	Developmental toxin.
Toluene	IARC	Classification not possible from current data.
Toluene	IARC	Inadequate data.
Toluene	IARC	Evidence suggests lack of carcinogenicity.

4. FIRST AID MEASURES

Inhalation: Move to fresh air.

Skin contact: Wash with water and soap as a precaution. If skin irritation persists, call a physician.

Eye contact: Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Consult a physician if necessary. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Flash point	not applicable
Ignition temperature	393.0 °C (739.40 °F) estimated
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Suitable extinguishing media:	Use the following extinguishing media when fighting fires involving this material: carbon dioxide (CO2) dry chemical water spray

Specific hazards during fire fighting: Material as sold is combustible; burns vigorously with intense heat.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective suit.

Further information: Water mist may be used to cool closed containers.
Remain upwind.
Avoid breathing smoke.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.
If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Environmental precautions
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods for cleaning up
Floor may be slippery; use care to avoid falling.
Eliminate all ignition sources.
Ventilate the area.
Transfer spilled material to suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Handling
Store in a cool, dry, well ventilated place. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container tightly closed. Do not breathe vapours/dust. Static charges can accumulate: use bonding and grounding between transfer equipment and receiving containers and for anyother operations capable of generating static electricity.

Storage
Storage conditions: Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Ground all metal containers during storage and handling.
Storage temperature:-18.00 - 49.00 °C(-0.40 - 120.20 °F)
Further information:
Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Toluene	Rohm and Haas	TWA	50 ppm
	Rohm and Haas	STEL	75 ppm
	Rohm and Haas	Absorbed via skin	
	ACGIH	TWA	50 ppm
	ACGIH	SKIN_DES	
	OSHA/Z2	TWA	200 ppm
	OSHA/Z2	Ceiling	300 ppm
	OSHA/Z2	MAX. CONC	500 ppm
	Z1A	TWA	375 mg/m3 100 ppm
	Z1A	STEL	560 mg/m3 150 ppm

Eye protection: Use safety glasses with side shields (ANSI Z87.1or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.
Hand protection: Cotton or canvas gloves.

Respiratory protection:A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required under normal operating conditions. When dusty conditions are encountered, wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Engineering measures: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Granular solid
Colour	clear
Odour	Acrylic odor
pH	not applicable
Boiling point/range	not applicable
Melting point/range	no data available
Flash point	not applicable
Ignition temperature	393 °C (739.40 °F) estimated
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapour pressure	not applicable
Relative vapour density	not applicable
Water solubility	practically insoluble
Density	0.66 g/cm3Bulk density

Viscosity, dynamic	not applicable
Evaporation rate	not applicable
Percent volatility	1 % maximum

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions	None known. This material is considered stable. However, avoid temperatures above 260C/500F. Thermal decomposition is dependent on time and temperature.
Materials to avoid	There are no known materials which are incompatible with this product.
Hazardous decomposition products	Thermal decomposition may yield acrylic monomers.,
polymerization	Product will not undergo polymerization.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50rat > 5,000 mg/kg Toxicity data for a compositionally similar material.
Acute dermal toxicity	LD50rabbit > 3,000 mg/kg Toxicity data for a compositionally similar material.
Skin irritation	rabbitslight irritation Toxicity data for a compositionally similar material.
Eye irritation	rabbitslight irritation Toxicity data for a compositionally similar material.

Further information
No data are available for this material. The information shown is based on profiles of compositionally similar materials.
Component:**Toluene**
Acute inhalation toxicity LC50rat 4 h15.07 mg/l

12. ECOLOGICAL INFORMATION

There is no data available for this product.
Toluene
Ecotoxicity effects

Toxicity to fish	LC50Rainbow trout96 h 24 ppm
Toxicity to fish	LC50Fathead minnow (Pimephales promelas)96 h 26 ppm
Toxicity to fish	LC50Bluegill sunfish96 h 13 ppm
Toxicity to algae	EC50Algae96 h >433 ppm
Toxicity to aquatic invertebrates	EC_{50}Daphnia magna48 h 11.5 ppm

13. DISPOSAL CONSIDERATIONS

Environmental precautions:CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Disposal
Waste Classification: When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR 261.33. The toxicity characteristic (TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).
For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

IMO/IMDG

Not regulated (Not dangerous for transport)

15. REGULATORY INFORMATION

Workplace Classification
This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200).

This product is a'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III:Section 311/312 Categorizations (40CFR370): This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

SARA TITLE III:Section 313 Information (40CFR372)
This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

CERCLAInformation(40CFR302.4)
Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Pennsylvania
Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California (Proposition 65)
This product contains a component or components known to the state of California to cause birth defects or other reproductive harm:

Components:	Toluene	108-88-3

California (Proposition 65)
This product contains trace levels of a component or components known to the state of California to cause cancer and birthdefects or other reproductive harm:

Components:	Benzene	71-43-2

16. OTHER INFORMATION

Hazard Rating

	Health	Fire	Reactivity
HMIS	1	1	0

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAc	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
|	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Version:1.1

Print Date: 02/29/2004

Layout 208776

ROHM AND HAAS

PARALOID™ B-72

Solid Grade Thermoplastic Acrylic Resin

Description

PARALOID B-72 general-purpose thermoplastic acrylic resin is similar to PARALOID B-66 acrylic resin but capable of forming softer films. The approximate hardness (KHN) is 10-11 compared to 12-13 for PARALOID B-66 resin.

PARALOID B-72 acrylic resin is unique in possessing a high tolerance for ethanol. The property allows its use in applications not tolerant of strong solvents. The alcohol dispersions may be cloudy or milky. However, they form clear, coherent films.

PARALOID B-72 has low reactivity with sensitive phosphorescent and luminescent pigments to produce stable, durable, non-yellowing coatings. It is compatible with vinyls, cellulosics, chlorinated rubbers, and silicones. It is well suited for white and metallic aerosols, clear coatings for wood, nitrocellulose modified coatings for general product finishing, pigment dispersion (fluorescent), flexographic printing inks, and gravure plastic coatings.

Solubility

Information about the solvent compatibility of PARALOID B-72 acrylic resin can be found in Rohm and Haas brochure 82A114—***PARALOID Solid Grade Resins, Solvent Selection Chart.***

Typical Properties

These properties are typical but do not constitute specifications.

Physical Form	Pellets
Bulk Density, 25°C, lb/gal	9.6
Solubility Parameter	9.3
Tg (ºC)	40
Ultimate Hardness of Clear Films, KHN	10 to 11
Chemical Composition	EMA Copolymer

Properties in White Lacquers[1]

Tukon Hardness		Whiteness		Cross Hatch[3]	
30 min. at 180°F	2.9	(K color low numbers best)		30 min. at 180°F	0
30 min. at 300°F	12.1	30 min. at 300°F	7.7	30 min. at 300°F	0
		16 hrs. at 350°F	11.8		
Pencil Hardness		Flexibility[2], 1/8, 1/4, 1/2		Mustard Staining	
30 min. at 180°F	H	inch mandrels		(30 minute exposure)	
30 min. at 300°F	H	30 min. at 180°F	0, 0, 0	30 min. at 180°F	Light
		30 min. at 300°F	4, 3, 2	30 min. at 300°F	Light
Gloss, 20°		Printing, 2 psi for		Gasoline Resistance	
30 min. at 180°F	77	1 hour at 140°F		(15 minute exposure)	
30 min. at 300°F	76	30 min. at 180°F	V. Heavy	30 min. at 180°F	Wipes Off
		30 min. at 300°F	Moderate	30 min. at 300°F	Wipes Off
Gloss, 60°		Knife Adhesion		Spray Conditions	
30 min. at 180°F	93	30 min. at 180°F	Very Good	Viscosity, No. 4 Ford Cup, sec.	15
30 min. at 300°F	92	30 min. at 300°F	Very Good	Solids Content, %	25.0

Note: Drying the coatings at 300°F for 30 minutes simulates final properties of the resin.

[1]The white lacquers were formulated at a titanium dioxide/binder ratio (solids basis) of 30/70. The properties were determined after coatings were sprayed on Bonderite 1000.

[2]The degree of cracking at the bend over each mandrel is rated on a 0 (no failure) to 10 (complete flaking) scale.

[3]The degree of flaking at the scribed cross hatch is rated on a 0 (no failure) to 5 (complete lift off) scale.

Additional Information

PARALOID B-65 is supplied in a powder form that is easily dissolved in aromatic hydrocarbons as well as a variety of esters and ketones.

The product detailed in this bulletin is supplied from our manufacturing facility in Louisville, Kentucky, USA with conformance to the requirements of ISO 9002 or to local equivalent quality protocols ensures consistently high standards, immaterial of the source, although the pack size and method of packaging may differ.

This product is available in Asia Pacific through Wilbur Ellis Co./Connell Bros. Co.

Safe Handling Information

Rohm and Haas Material Safety Data Sheets (MSDS) contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Rohm and Haas Company recommends that you have your local Rohm and Haas technical representatives supply you with MSDS on all our products before using them in your facilities. We also suggest that you contact the suppliers of other materials recommended for use with our products for appropriate health and safety regulations before use.

Chemical Registration

Many countries within the Asia-Pacific region require the registration of chemicals, either imported or produced locally, prior to their commercial use. Violation of these regulations may lead to substantial penalties imposed upon the user, the importer or manufacturer, and/or cessation of supply. It is in your interests to ensure that all chemicals used by you are registered. Rohm and Haas Company does not supply unregistered products unless permitted under limited sampling procedures as a precursor to registration.

Rohm and Haas Company makes no warranties, either expressed or implied, as to the accuracy or appropriateness of this data and expressly excludes any liability upon Rohm and Haas arising out of its use. We recommend that the prospective users determine for themselves the suitability of Rohm and Haas' materials and suggestions for any use prior to their adoption.

Suggestions for use of our products or the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent or as permission or license to use any patents of the Rohm and Haas Company. Material Safety Data Sheets outlining the hazards and handling methods for our products are available on request.

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ROHM AND HAAS

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Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PARALOID (TM) B-72 100% Resin

Revision date: 09/26/2003

Supplier Rohm and Haas Company
100 Independence Mall West
Philadelphia, PA 19106-2399 United States of America

For non-emergency information contact: 215-592-3000

Emergency telephone number

Spill Emergency	215-592-3000
Health Emergency	215-592-3000
Chemtrec	800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Acrylic polymer(s)	Not Hazardous	99.0 - 100.0%
Individual residual monomers	Not Required	<=0.1%
Toluene	108-88-3	<=0.8%

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form	Granular solid
Colour	clear

Odour Acrylic odor

Hazard Summary	**CAUTION!** INHALATION OF DUST CAN CAUSE THE FOLLOWING: IRRITATION OF NOSE, THROAT, AND LUNGS HEADACHE NAUSEA MAY CAUSE EYE/SKIN IRRITATION.

Potential Health Effects

Primary Routes of Entry: Inhalation
Eye contact
Skin contact

Eyes: Monomer vapors from heated product can cause the following:
slight irritation

Skin: Prolonged or repeated skin contact can cause the following:
slight irritation

Inhalation: Inhalation of dust can cause the following:
irritation of nose, throat, and lungs
Inhalation of monomer vapor from heated product can cause the following:
May cause nose, throat, and lung irritation.
headache

nausea

Toluene	ACGIH	Not classifiable as a human carcinogen.
Toluene	US CA65CRT	Developmental toxin.
Toluene	IARC	Classification not possible from current data.
Toluene	IARC	Inadequate data.
Toluene	IARC	Evidence suggests lack of carcinogenicity.

4. FIRST AID MEASURES

Inhalation: Move to fresh air.

Skin contact: Wash with water and soap as a precaution. If skin irritation persists, call a physician.

Eye contact: Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Consult a physician if necessary. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Flash point	not applicable
Ignition temperature	393.0 °C (739.40 °F) estimated
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Suitable extinguishing media:	Use the following extinguishing media when fighting fires involving this material: carbon dioxide (CO2) dry chemical water spray

Specific hazards during fire fighting: Material as sold is combustible; burns vigorously with intense heat.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective suit.

Further information: Water mist may be used to cool closed containers.
Remain upwind.
Avoid breathing smoke.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.
If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Environmental precautions
CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods for cleaning up
Floor may be slippery; use care to avoid falling.
Eliminate all ignition sources.
Ventilate the area.
Transfer spilled material to suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Handling
Store in a cool, dry, well ventilated place. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container tightly closed. Do not breathe vapours/dust. Static charges can accumulate: use bonding and grounding between transfer equipment and receiving containers and for anyother operations capable of generating static electricity.

Storage
Storage conditions: Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Ground all metal containers during storage and handling.
Storage temperature:-18.00 - 49.00 °C(-0.40 - 120.20 °F)
Further information:
Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value
Toluene	Rohm and Haas	TWA	50 ppm
	Rohm and Haas	STEL	75 ppm
	Rohm and Haas	Absorbed via skin	
	ACGIH	TWA	50 ppm
	ACGIH	SKIN_DES	
	OSHA/Z2	TWA	200 ppm
	OSHA/Z2	Ceiling	300 ppm
	OSHA/Z2	MAX. CONC	500 ppm
	Z1A	TWA	375 mg/m3 100 ppm
	Z1A	STEL	560 mg/m3 150 ppm

Eye protection: Use safety glasses with side shields (ANSI Z87.1or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.
Hand protection: Cotton or canvas gloves.

Respiratory protection:A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required under normal operating conditions. When dusty conditions are encountered, wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Engineering measures: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Granular solid
Colour	clear
Odour	Acrylic odor
pH	not applicable
Boiling point/range	not applicable
Melting point/range	no data available
Flash point	not applicable
Ignition temperature	393 °C (739.40 °F) estimated
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapour pressure	not applicable
Relative vapour density	not applicable
Water solubility	practically insoluble
Density	0.66 g/cm3Bulk density

Viscosity, dynamic	not applicable
Evaporation rate	not applicable
Percent volatility	1 % maximum

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions	None known. This material is considered stable. However, avoid temperatures above 260C/500F. Thermal decomposition is dependent on time and temperature.
Materials to avoid	There are no known materials which are incompatible with this product.
Hazardous decomposition products	Thermal decomposition may yield acrylic monomers.,
polymerization	Product will not undergo polymerization.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50rat > 5,000 mg/kg Toxicity data for a compositionally similar material.
Acute dermal toxicity	LD50rabbit > 3,000 mg/kg Toxicity data for a compositionally similar material.
Skin irritation	rabbitslight irritation Toxicity data for a compositionally similar material.
Eye irritation	rabbitslight irritation Toxicity data for a compositionally similar material.

Further information
No data are available for this material. The information shown is based on profiles of compositionally similar materials.
Component:**Toluene**
Acute inhalation toxicity LC50rat 4 h15.07 mg/l

12. ECOLOGICAL INFORMATION

There is no data available for this product.
Toluene
Ecotoxicity effects

Toxicity to fish	LC50Rainbow trout96 h 24 ppm
Toxicity to fish	LC50Fathead minnow (Pimephales promelas)96 h 26 ppm
Toxicity to fish	LC50Bluegill sunfish96 h 13 ppm
Toxicity to algae	EC50Algae96 h >433 ppm
Toxicity to aquatic invertebrates	EC_{50}Daphnia magna48 h 11.5 ppm

13. DISPOSAL CONSIDERATIONS

Environmental precautions:CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Disposal
Waste Classification: When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR 261.33. The toxicity characteristic (TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).
For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

IMO/IMDG

Not regulated (Not dangerous for transport)

15. REGULATORY INFORMATION

Workplace Classification
This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200).

This product is a'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III:Section 311/312 Categorizations (40CFR370): This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

SARA TITLE III:Section 313 Information (40CFR372)
This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

CERCLAInformation(40CFR302.4)
Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Pennsylvania
Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California (Proposition 65)
This product contains a component or components known to the state of California to cause birth defects or other reproductive harm:

Components:	Toluene	108-88-3

California (Proposition 65)
This product contains trace levels of a component or components known to the state of California to cause cancer and birthdefects or other reproductive harm:

Components:	Benzene	71-43-2

16. OTHER INFORMATION

Hazard Rating

	Health	Fire	Reactivity
HMIS	1	1	0

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAc	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
|	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Version:1.1

Print Date: 02/29/2004

Layout 208776

ROMAN
THE NO. 1 CONTRACTOR BRAND

Product Data Sheet

Heavy Duty Clear, PRO-838

Product Numbers: 11305, 11301

Base: Modified Starches

General Properties: Heavy Duty Clear, PRO-838 is a commercial grade adhesive designed for contractors.

- For light to heavy weight wallcoverings
- Excellent adhesion
- Extended open time
- LEED regulation compliant

Recommended Uses: For commercial weight wallcoverings.

Compatible Coatings: All PROFESSIONAL® primers

All Roman products have a bactericide and mildewcide for in can protection. In addition the mildewcide provides on the wall protection.

SPECIFICATION DATA

Percent Solids: Approximately 21%

Coverage: Up to approx. 280 square feet per gallon

Viscosity: Approximately 29,000 cps

VOC: Less than 50 grams/liter

Drying Time: Drying time will vary depending on the temperature, ventilation and humidity of the room.

Storage: Avoid freezing; keep in cool, dry place.

LIMITED WARRANTY

Roman warrants that it will replace this product free of charge if within 12 months of manufacture it is found defective in material or workmanship. This warranty is in lieu of any other. The exclusive remedy is limited to the replacement of the product and Roman disclaims all liability for consequential, punitive and special damages. Conditions of use are beyond our control.

Roman Decorating Products • Calumet City, Illinois
Questions? Call 1-800-488-6117.
www.romandecoratingproducts.com

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APPLICATION INSTRUCTIONS

Surface Preparation: Surface must be free from grease and other residues, dry, smooth and structurally sound. Check surfaces for paint bonding, loose wallcoverings, damaged wallboard or plaster. Repair all unsound surfaces. Prime all surfaces (including oil-based coatings) with an acrylic primer. Before proceeding with any unusual conditions, consult your adhesive or wallcovering supplier.
Tinting: N/A
Dilution: Up to one pint of water per gallon if needed.

Application Method: Use only when the room temperature is above 50°F. Apply a thin, even coat of adhesive with a pasting machine, brush or roller. Avoid contact with the surface of embossed, textured or delicate wallcoverings. For pasting machine use, thin with a maximum of one pint of water per gallon of adhesive.

Drying Time: Varies depending on the temperature, ventilation and humidity of the room.

Clean-Up: Before the adhesive dries, remove the excess with clean water. Additional effort may be required if the adhesive is allowed to contact the surface of embossed or textured vinyls.

WARNING-Roman Decorating Products LLC does not endorse the use of any product in an installation that does not meet a Class A fire rating or any applicable code. Testing by a certified laboratory should be conducted to verify the installation meets a Class A fire rating and to guarantee compliance with all applicable codes. Specifically, if a Roman product is to hang wallpaper over existing wallpaper, it is unlikely to meet these standards.

CAUTION

Do not freeze. Do not take internally. In case of ingestion, seek medical attention. Avoid contact with skin and eyes. Use of skin and eye protection is recommended at all times. If contact with eye occurs, flush with water for 15 minutes. If skin contact occurs, wash with soap and water. Seek medical attention if rash or other symptoms occur. Do not mix with other chemicals. Use in a well ventilated work area. Close container after each use. Keep out of reach of children.

HEAVY DUTY CLEAR WALLCOVERING ADHESIVE (PRO-838)

MATERIAL SAFETY DATA SHEET

Section 1

Manufacturer's Name:
Roman Decorating Products
824 State Street
Calumet City, Illinois 60409

Emergency Assistance:
1-800-488-6117

HMIS Hazard Rating:

FIRE=0 Least=0
HEALTH=1 Slight=1
REACTIVITY=1 Moderate=2
PERSONAL PROTECTION=B High=3
Extreme=4

Reviewed: January 1, 2011

T**rade name and Synonyms:**
ROMAN HEAVY DUTY CLEAR WALLCOVERING ADHESIVE (PRO-838)
11305, 11304, 11301, 11314
Chemical Name and Synonyms: Vinyl wallcovering adhesive
Chemical Family: Vegetable adhesive

Section 2-Hazardous Ingredients/Identity Information

CAS No.	Chemical Name(s)	OSHA PEL	ACGIH TLV	max %
7631-99-4	Sodium nitrate	15 mg/M^3	10 mg/M^3	4

Section 3-Physical/Chemical Characteristics

Appearance and Odor: Translucent off-white paste, mild odor
Specific Gravity(water=1): 1.04
Percent Solids by Weight: 22-26
by Volume: 18-19
Solubility in Water: Miscible in all proportions
Boiling Point: 212F
Vapor Density: Same as water
Vapor Pressure: Same as water
Evaporation Point: Same as water
Melting Point: n.a.
Volatile Organic Compounds (VOC,less water): 47 gr/l (0.39 lb/gal)
VOC as a percent of the product weight: 0.41

Section 4-Fire and Explosion Hazard Data

Flash Point(methods used) n.a.
Extinguishing Methods:
Special Fire Fighting Procedures:
Self contained breathing apparatus should be worn in fighting all fires involving general chemicals. Unusual Fire and Explosion Hazards: None.

Section 5-Health Hazard Data

Carcinogenicity: NTP:no IARC:no OSHA regulated: no

Overexposure--Under current OSHA criteria this product is considered non-hazardous.
Emergency First Aid Procedures
Eyes- Flush with water for 15 minutes, seek medical attention.
Skin- Wash from skin at first opportunity.
Inhalation- No hazardous volatiles
Ingestion- Give water to drink if conscious, seek medical attention. Do not give anything to drink to an unconscious person.

Section 6-Reactivity Data

This product is stable and compatible with all compounds that are compatible with water and water solutions. Hazardous polymerization does not occur.

Section 7-Precautions for Safe Handling and Use

Steps to be taken in case the product is released or spilled:
Small spills of 1-2 gallons or less may be diluted 50:1 with water and washed down the drain.
Larger spills should be recovered as much as possible and disposed of as non-hazardous liquid waste. Remaining residues may be flushed away as in "small spill" procedure. Consult Federal, State and Local regulations. Product residues may pose a slip hazard; personnel should be careful during clean-up.

Section 8-Control Measures

Respiratory protection is not usually required, however any room where this product is used should have good ventilation, i.e., open windows, exhaust fans, etc. A good, normal precaution is to wear protective gloves and safety glasses. No other protection equipment is necessary.

Section 9- Special Precautions

Store at moderate temperatures (50-100 F). Protect from freezing. Keep out of the reach of children. Keep container closed when not in use.

SUPPLEMENTAL INFORMATION

Waste Disposal
This product can handled as a non-hazardous industrial waste.

REGULATORY INFORMATION

Workplace Classifications
This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).
This product is not a "controlled product" under the Canadian Workplace Hazardous Materials Information System (WHMIS).
Transportation Classifications
US DOT Shipping Class --- 60
US DOT Description --- Adhesive Paste NOI

Emergency Planning and Community Right to Know (SARA Title 3)
Section 311/312 Categorizations (40CFR 370)
This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.
Section 313 Information (40CFR 372) This product does not contain a chemical which is listed in Section 313 above de minimis concentrations.

CERCLA Information (40CFR 302.4)
Releases of this material to air, land or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation and Liability Act or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act, Title III Section 304.

RCRA Information
When this product becomes a waste, it is classified as a non-hazardous waste under criteria of the Resource Conservation and Recovery Act (40CFR 261).

Chemical Control Law Status
All components of this product are listed on the US-EPA Toxic Substance Control Act (TSCA) Chemical Substance Inventory.
All components of this product are listed on the Canadian Environmental Protection Act Domestic Substances List (CEPA-DSL).

Sheffield Bronze Paint Corp.
17814 South Waterloo Rd.
P.O. Box 19206
Cleveland, Ohio 44119-0206
Tel. (216) 481-8330
Fax (216) 481-6606

PRODUCT: TINTSALL – UNIVERSAL TINTING COLORS

USE:	Tinting of all paints ï water or oil.
FEATURES:	Tints oil base and water base paints. Compatible with nitrocellulose lacquers, acrylic lacquers, polyurethanes, and epoxys.
TYPE:	Various organic and inorganic pigments dispersed in a proprietary surfactant.
COLORS:	Available in 34 specially formulated decorator colors and white. Color card available upon request.
THINNING:	If required, use the primary solvent in the coating to be tinted.
APPLICATION:	For tinting only. Does not dry.
CAUTION:	Do not use over 8 ounces per gallon of paint. Make sure colorant is completely dispersed before applying the coating.
NOTE:	The tints-all colorants are all mutually compatible, thus an infinite variety of shades and tones. Colors are achievable by using more than one colorant in a batch. None of the tints-all colorants contain lead, cadium, mercury, or other heavy metals. The surfactants used in the tints-all colorants are non-ionic and biodegradable.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES:CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-421 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: YELLOW LIGHT-1 TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENT	TLV PPM	TLV MG/M3	LEL	VAPOR PRESSURE MM/HG
IRON OXIDE	51274-00-1	6.9				
HANSA YELLOW	13515-40-7	6.9				
CALCIUM CARBONATE	471-34-1	48.3				
NON-IONIC BIODEGRADABLE SURFACTANT	68154-97-2	18.5				
**DIACETONE ALCOHOL	123-42-2	18.5	50	240	1.8	LESS THAN 1.0 @ 20 Deg. C.
ADDITIVES	LESS THAN	1.0				

*ALL INGREDIENTS ARE LISTED ON THE EPA/TSCA INVENTORY
*SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.: 2.5#/GALLON; 300 GRAMS/LI
Percent Volatile by VOLUME: 30 Weight per GALLON: 13.3 LBS.
Percent Volatile by WEIGHT: 18.6

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) - 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition, ventilate, avoid breathing vapors.

Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.

WASTE DISPOSAL METHOD:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.

VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT

EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

Information above pertains to this product as currently formulated. Addition of other additives may alter the Composition and Hazards. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND ASSUME NO LIABILITY WITH USE OF THIS INFORMATION.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES: CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-571 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: RAW UMBER 10 TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENT	TLV PPM	TLV MG/M3	LEL	VAPOR PRESSURE MM/HG
CARBON BLACK	1333-86-4	8.2				
YELLOW IRON OXIDE	51274-00-1	19.0				
RED IRON OXIDE	1309-37-1	4.1				
NON-IONIC BIODEGRADABLE SURFACTANT	68154-97-2	24.2				
**DIACETONE ALCOHOL	123-42-2	24.2	50	240	1.8	.95 @ 20 DEG. C.
CALCIUM CARBONATE	471-34-1	19.0				
SILICATE	1302-78-9	0.5				
ADDITIVES	LESS THAN	1.0				

*ALL INGREDIENTS ARE LISTED ON THE EPA/TSCA INVENTORY
*SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.: 3.0#/GAL.; 361 GRAMS/LITRE
Percent Volatile by VOLUME: 36.7 Weight per GALLON: 12.3 lbs
Percent Volatile by WEIGHT: 24.2

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

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SECTION VI - REACTIVITY DATA

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STABILITY: STABLE

CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

****

SECTION VII - SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition, ventilate, avoid breathing vapors.

Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.

WASTE DISPOSAL METHOD:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

****

SECTION VIII - SPECIAL PROTECTION INFORMATION

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RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.

VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT

EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

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SECTION IX - SPECIAL PRECAUTIONS

****

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

****

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

****

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

****

Information above pertains to this product as currently formulated. Addition of other additives may alter the Composition and Hazards. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND ASSUME NO LIABILITY WITH USE OF THIS INFORMATION.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES:CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-660 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: SEA BLUE GR.-26 TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENT	TLV PPM	TLV MG/M3	LEL	VAPOR PRESSURE MM/HG
PHTHALO GREEN	1328-53-6	4.0				
PHTHALO BLUE	147-14-8	1.4				
CALCIUM CARBONATE	471-34-1	61.0				
NON-IONIC BIODEGRADABLE SURFACTANT	68154-97-2	16.5				
**DIACETONE ALCOHOL	123-42-2	16.5	50	240	1.8	.95
ADDITIVES	LESS THAN	1.0				

*ALL INGREDIENTS ARE LISTED ON THE EPA/TSCA INVENTORY
*SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.:2.2#/GALLON; 266 GRAMS/LIT
Percent Volatile by VOLUME: 29.5 Weight per GALLON: 13.8 LBS.
Percent Volatile by WEIGHT: 16

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) - 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition, ventilate, avoid breathing vapors.

Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.

WASTE DISPOSAL METHOD:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.

VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT

EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

Information above pertains to this product as currently formulated. Addition of other additives may alter the Composition and Hazards. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND ASSUME NO LIABILITY WITH USE OF THIS INFORMATION.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES:CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-862 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: ULTRABLUE - 27 TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	* CAS NUMBER*	PERCENT*	TLV * PPM	TLV MG/M3*	LEL *	VAPOR PRESSURE MM/HG
: ULTRAMARINE BLUE	: 57455-37-5	: 25.3 :	:	:	:	:
: PHTHALO BLUE	: 147-14-8	: 0.4 :	:	:	:	:
: CALCIUM CARBONATE	: 471-34-1	: 39.3 :	:	:	:	:
NON-IONIC BIODEGRADABLE	:	:	:	:	:	:
SURFACTANT	:68154-97-2	: 16.0 :	:	:	:	:
**DIACETONE ALCOHOL	: 123-42-2	: 16.0 :	50 :	240 :	1.8 :	.95
: SILICATE OF ALUMINA	: 1302-78-9	: 2.3 :	:	:	:	:
: ADDITIVES	: LESS THAN	: 1.0 :	:	:	:	:
:	:	:	:	:	:	:

*ALL INGREDIENTS ARE LISTED ON THE EPA/TSCA INVENTORY
*SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.:2.3#/GALLON; 277 GRAMS/LIT
Percent Volatile by VOLUME: 29 Weight per GALLON: 13.9LBS.
Percent Volatile by WEIGHT: 16.5

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) - 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition, ventilate, avoid breathing vapors.

Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.

WASTE DISPOSAL METHOD:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.

VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT

EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

Information above pertains to this product as currently formulated. Addition of other additives may alter the Composition and Hazards. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND ASSUME NO LIABILITY WITH USE OF THIS INFORMATION.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES:CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-863 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: COBALT BLUE -28 TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	* CAS NUMBER	*PERCENT*	TLV * PPM	TLV MG/M3*	LEL *	VAPOR PRESSURE MM/HG
: TITANIUM DIOXIDE	: 13463-63-7	: 0.7	:	:	:	:
: ULTRAMARINE BLUE	: 57455-37-5	: 11.5	:	:	:	:
: PHTHALO BLUE	: 147-14-8	: 2.3	:	:	:	:
NON-IONIC BIODEGRADABLE	:	:	:	:	:	:
SURFACTANT	:68154-97-2	: 18.1	:	:	:	:
**DIACETONE ALCOHOL	: 123-42-2	: 18.1	: 50	: 240	: 1.8	: .95
: CARBON BLACK	: 1333-86-4	: 0.1	:	:	:	:
: CALCIUM CARBONATE	: 471-34-1	: 47.4	:	:	:	:
: SILICATE OF ALUMINA	: 1302-78-9	: 1.4	:	:	:	:
: ADDITIVES	: LESS THAN	: 1.0	:	:	:	:

:
*ALL INGREDIENTS ARE LISTED ON THE EPA/TSCA INVENTORY
*SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.:2.43#/GALLON; 293 GRAMS/LI
Percent Volatile by VOLUME: 30.9 Weight per GALLON: 13.4 LBS.
Percent Volatile by WEIGHT: 18.2

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) - 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition, ventilate, avoid breathing vapors.

Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.

WASTE DISPOSAL METHOD:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.

VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT

EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

Information above pertains to this product as currently formulated. Addition of other additives may alter the Composition and Hazards. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND ASSUME NO LIABILITY WITH USE OF THIS INFORMATION.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES: CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-861 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: PRUSSIAN BLUE (PHTHALO BLUE) TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	* CAS NUMBER	*PERCENT*	TLV * PPM	TLV MG/M3*	LEL *	VAPOR PRESSURE MM/HG
: IRON BLUE	: 14038-43-8	: 1.1	:	:	:	:
: PHTHALO BLUE	: 147-14-8	: 5.4	:	:	:	:
: CALCIUM CARBONATE	: 471-34-1	: 53.9	:	:	:	:
NON-IONIC BIODEGRADABLE	:	:	:	:	:	:
SURFACTANT	: 68154-97-2	: 18.9	:	:	:	:
**DIACETONE ALCOHOL	123-42-2	: 18.9	: 50	: 240	: 1.8	: .95
: ADDITIVES	: LESS THAN	: 1.0	:	:	:	:
: PHTHALO GREEN	: 1328-53-6	: 0.7	:	:	:	:
: CARBON BLACK	: 1333-86-4	: 0.4	:	:	:	:
:	:	:	:	:	:	:

* ALL INGREDIENTS ARE LISTED ON THE EPA/TSCA INVENTORY
@=SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.:2.53#/GALLON; 304 GRAMS/LI
Percent Volatile by VOLUME: 30 Weight per GALLON: 13.3 LBS.
Percent Volatile by WEIGHT: 19

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition, ventilate, avoid breathing vapors.

Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.

WASTE DISPOSAL METHOD:

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.

VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT

EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS.

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

Information above pertains to this product as currently formulated. Addition of other additives may alter the Composition and Hazards. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED AND ASSUME NO LIABILITY WITH USE OF THIS INFORMATION.

DATE: MARCH, 2013 MATERIAL SAFETY DATA SHEETS
FOR COATINGS, RESINS AND RELATED MATERIALS

SECTION I

Manufacturers Name SHEFFIELD BRONZE PAINT CORP Emergency Phone No.
Street Address 17814 S.WATERLOO RD. (216) 481-8330
City, State, Zip CLEVELAND,OHIO 44119 TRANSPORTATION EMERGENCIES: CHEMTREC
(800) 424-9300 CONTINENTAL U.S.
PRODUCT NUMBER: 11-192 (202) 483-7616 (COLLECT) FROM
PRODUCT NAME: FLAKE WHITE-35 TINTSALL ALASKA & HAWAII
PRODUCT CLASS: UNIVERSAL TINTING COLOR

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS NUMBER	PERCENT	TLV PPM	TLV MG/M3	LEL	VAPOR PRESSURE MM/HG
TITANIUM DIOXIDE	13463-67-7	28.7				
CALCIUM CARBONATE	471-34-1	40.0				
SILICATES	1302-78-9	1.0				
NON-IONIC BIODEGRADABLE SURFACTANT	68154-97-2	14.8				
**DIACETONE ALCOHOL	123-42-2	14.8	50	240	1.8	.95
ADDITIVES	LESS THAN	1.0				

*ALL INGREDIENTS ARE LISTED ON EPA/TSCA INVENTORY
*SARA TITLE 111 SECTION 313 REPORTING FOR SUPERFUND AMENDMENTS

SECTION III - PHYSICAL DATA

Boiling Range: 337dgr F Vapor Density: HEAVIER THAN AIR
Evaporation Rate: SLOWER than Butyl Acetate V.O.C.:2.35#/GALLON; 283 GRAMS/LI
Percent Volatile by VOLUME: 27.8 Weight per GALLON: 15.9 LBS.
Percent Volatile by WEIGHT: 14

SECTION IV - FIRE and EXPLOSION DATA

DOT CATEGORY: COMBUSTIBLE FLASH POINT (SETA) - 138 Degrees F.
EXTINGUISHING MEDIA: CO-2, DRY CHEMICAL, FOAM, FOG
UNUSUAL FIRE AND EXPLOSION HAZARDS: HANDLE AS A COMBUSTIBLE LIQUID
SPECIAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 50ppm OR 240MG/M3 TWA (8 hr. Workday)
EFFECTS OF OVEREXPOSURE: BREATHING VAPOR IS IRRITATING TO EYES, NOSE AND THROAT. CONTACT WITH EYES AND SKIN CAN CAUSE DRYNESS & IRRITATION
EMERGENCY AND FIRST AID PROCEDURES: Flush eyes immediately with large amounts of water. Wash skin areas with water. Remove to fresh air. IF INGESTED: If patient is conscious can swallow, give two glasses of water (16 oz.), induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.
Get medical attention immediately.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE
CONDITIONS AND MATERIALS TO AVOID: HIGH HEAT, FLAME, STRONG OXIDIZING AGENTS, NITRIC ACID AND STRONG BASES.
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition, ventilate, avoid breathing vapors.
Remove with INERT ABSORBENT(sand, earth, sawdust etc.) WEAR SUITABLE PROTECTIVE EQUIPMENT.
WASTE DISPOSAL METHOD:
DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, and LOCAL REGULATIONS. AT VERY LOW CONCENTRATIONS IN WATER, THIS PRODUCT IS BIODEGRADABLE IN A BIOLOGICAL WASTE WATER TREATMENT PLANT.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS. IN AREAS OF HIGH VAPOR CONCENTRATION, USE AN ATMOSPHERE SUPPLYING BREATHING APPARATUS.
VENTILATION: MECHANICAL VENTILATION EQUAL TO OUTDOORS
PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT
EYE PROTECTION: SAFETY GLASSES WITH UNPERFORATED SIDESHIELDS
OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWERS, CHEMICAL RESISTANT CLOTHING

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: HANDLE AS A COMBUSTIBLE LIQUID. STORE IN A COOL DRY PLACE. USE ADEQUATE VENTILATION EQUIVALENT TO THE OUTDOORS
OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME. SMOKING SHOULD BE PROHIBITED WHERE USED. KEEP OUT OF REACH OF CHILDREN.

SECTION X - HAZARDOUS MATERIAL IDENTIFICATION

LISTED IN THIS SECTION IS NPCA-HMIS CLASSIFICATION FOR THIS PRODUCT

Health	:	2
Flammability	:	2
Reactivity	:	0
Personal Protection	:	B

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FAUX IMPRESSIONS™
Latex Glaze

As of 12/01/2012, complies with			
OTC	Yes	LEED® 09 CI	Yes
SCAQMD	Yes	LEED® 09 NC	Yes
CARB	Yes	LEED® 09 CS	Yes
CARB SCM 2007	Yes	LEED® H	Yes
MPI Spec #	No	NGBS	Yes

CHARACTERISTICS

faux impressions **Latex Glaze** allows the creation of a variety of finishes on interior walls, doors, trim, and furniture. The special effects are developed by sponging on or off, ragging on or off, and combing. Depending on the tools used, many other imaginative effects can be made, such as faux marble and leather.

The various effects available from ***faux impressions*** **Latex Glaze** are accomplished by applying 1 or more layers of colored glaze over a base coat. Since the **Latex Glaze** is translucent (tinting creates a transparent glaze and mixing with paint creates a semi-opaque glaze), the basecoat color influences the finished appearance. It is a recommended practice to preview color choices on a 2 ft by 2 ft practice board prior to painting your project area.

faux impressions **Latex Glaze** provides several unique finish effects:

Textured Metallic
Smooth Fresco
Textured Fresco
Leaf Impressions
Tissue Paper Impressions
Crackle

(See faux impressions Metallic Technique, Artisan, and Old World Fresco bulletins for application details.)

Drying Time, @ 77°F, 50% RH:
temperature and humidity dependent

Touch:	1 hour
Recoat:	24 hours
Flash Point:	N/A
Vehicle Type:	Vinyl

A46C00400

VOC (less exempt solvents):
241 g/L; 2.01 lb/gal
with 6.0 oz wet edge extender/gal:
242 g/L; 2.02 lb/gal

Volume Solids:	24 ± 2%
Weight Solids:	29 ± 2%
Weight per Gallon:	9.0 lb

SPECIFICATIONS

Priming
If an existing paint is in good condition, priming is not needed. If the color of the existing paint needs to change, use Duration Home Matte to provide a finish that will give the best surface for applying this coating.
If a surface is new, priming will provide a uniform surface over which you can apply the Duration Home Matte in the appropriate background color.

Optional Primer
Drywall, Wood, & Plaster
Premium Wall & Wood Primer
Masonry, Cement, Block, Brick
Loxon Concrete & Masonry Primer
Loxon Block Surfacer

The Background Paint
Because you will be adding or subtracting glaze from the surface, for the best working conditions, the color of this background paint will combine with the colored glaze to create depth. Allow a latex background coat to dry at least 4 hours before coating with the glaze.

To increase the working time, add up to 6 oz/gal of open time extender such as X-I-M® Latex X-Tender™.

APPLICATION

Due to the variety of looks inherent in any faux finish, before starting your room or project, it is highly recommended that you create a sample board to finalize your color selection and practice your technique.

SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.
Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Glossy surfaces should be sanded dull. Stains from water, smoke, ink, pencil, grease, etc. should be sealed with the appropriate primer/sealer.

Drywall
Fill cracks and holes with patching paste/spackle and sand smooth. Joint compounds must be cured and sanded smooth. Remove all sanding dust.

Masonry, Concrete, Cement, Block
All new surfaces must be cured according to the supplier's recommendations—usually about 30 days. Remove all form release and curing agents. Rough surfaces can be filled to provide a smooth surface. If painting cannot wait 30 days, allow the surface to cure 7 days and prime the surface with Loxon Concrete & Masonry Primer.

continued on back

107.53

FAUX IMPRESSIONS™
Latex Glaze

SURFACE PREPARATION

Plaster
Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.

Wood
Sand any exposed wood to a fresh surface. Patch all holes and imperfections with a wood filler or putty and sand smooth.

Mildew
Remove before painting by washing with a solution of 1 part liquid bleach and 3 parts water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with water and allow the surface to dry before painting. Wear protective eyewear, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.

Caulking
Gaps between walls, ceilings, crown moldings, and other interior trim can be filled with the appropriate caulk after priming the surface.

SPECIAL INSTRUCTIONS

Work in small sections, large sections will become tacky and unworkable.
Keep a wet edge of unworked glaze at the edge of each section to allow proper blending with the next section.
Room and surface temperature must be between 45°F and 85°F for best working conditions.
Latex Glaze will remain workable for 5 to 10 minutes depending on the application technique.
Higher temperatures, low humidity and improperly sealed surfaces will shorten the open time or working time.

Faux Finish is washable and durable. Freshly glazed surfaces may be washed after 30 days drying time with a mild, non-abrasive, non-oily cleaner and water. Do not place objects on top of glazed surface until thoroughly cured.

Topcoating
For increased durability, a clear, acrylic, waterborne finish can be applied after 24 hours.

Techniques and Tools
faux impressions **Latex Glaze** can be used in a wide variety of faux finish techniques:

Additive
Sponging, Ragging, Washing the glaze onto a surface

Subtractive
Applying a uniform coating of glaze then removing some of the glaze

Dragging or combing
Using different tools to get different effects

Glazing
Applying the glaze over a metallic or fresco finish

CLEANUP INFORMATION

Clean spills and spatters immediately with soap and warm water. Clean hands and tools immediately after use with soap and warm water.

CAUTIONS

Do not mix with oil/alkyd paints.
Apply at temperatures above 45°F.
Not for use on floors
For interior use only.
Protect from freezing.
Non-photochemically reactive.

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Sheet.

MATERIAL SAFETY DATA SHEET

A46C400
13 00

DATE OF PREPARATION
Oct 15, 2013

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER
A46C400
PRODUCT NAME
FAUX IMPRESSIONS™ Latex Finish Glaze, Clear
MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
101 Prospect Avenue N.W.
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	www.sherwin-williams.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
**for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)*	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
5	**107-21-1**	**Ethylene Glycol**		
		ACGIH TLV	100 MG/M3 CEILING (aerosol)	0.12 mm
		OSHA PEL	50 PPM CEILING	
0.2	**14464-46-1**	**Cristobalite**		
		ACGIH TLV	0.025 mg/m3 as Resp. Dust	
		OSHA PEL	0.05 mg/m3 as Resp. Dust	
6	**471-34-1**	**Calcium Carbonate**		
		ACGIH TLV	10 mg/m3 as Dust	
		OSHA PEL	15 mg/m3 Total Dust	
		OSHA PEL	5 mg/m3 Respirable Fraction	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

HMIS Codes

Health	2*
Flammability	0
Reactivity	0

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.

In a confined area vapors in high concentration may cause headache, nausea or dizziness.
Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:
- the liver
- the urinary system

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL	FLAMMABILITY CLASSIFICATION
Not Applicable	Not Applicable	Not Applicable	Not Applicable

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE

STORAGE CATEGORY

Not Applicable

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.
Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.
Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	8.99 lb/gal	1077 g/l
SPECIFIC GRAVITY	1.08	
BOILING POINT	212 - 500 °F	100 - 260 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	75%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	9.0	

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)

2.01 lb/gal	241 g/l	Less Water and Federally Exempt Solvents
0.63 lb/gal	76 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.

Ethylene Glycol is considered an animal teratogen. It has been shown to cause birth defects in rats and mice at high doses when given in drinking water or by gavage. There is no evidence to indicate it causes birth defects in humans.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
107-21-1	**Ethylene Glycol**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		4700 mg/kg
14464-46-1	**Cristobalite**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
471-34-1	**Calcium Carbonate**			
		LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)
Not Regulated for Transportation.
Canada (TDG)
Not Regulated for Transportation.
IMO
Not Regulated for Transportation.
IATA/ICAO
Not Regulated for Transportation.

SECTION 15 — REGULATORY INFORMATION

SARA 313 *(40 CFR 372.65C)* SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
107-21-1	Ethylene Glycol	5	

CALIFORNIA PROPOSITION 65
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION
All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Submittal Sheet
09250

SHEETROCK® Brand Lightweight Setting-Type Joint Compounds



For one-day drywall finishing

– For interior gypsum panels and exterior gypsum ceiling boards.
– Weighs 25% less than conventional setting-type compounds.
– Sanding ease similar to a ready-mixed, all-purpose joint compound.
– Unique humidity resistance.
– Exceptional bond with low shrinkage.
– Check-crack resistance in heavy fills.
– Choice of setting times.

Description

SHEETROCK® Brand Lightweight Setting-Type Joint Compounds (EASY SAND™) are nonasbestos, chemically setting compounds for drywall interiors and exteriors that permit same-day joint finishing, and, usually, next-day decoration. Compounds are lightweight for easy handling and sand easily for fast, smooth finishing. They are ideal for heavy fills and are virtually unaffected by humidity. They provide low shrinkage and superior bond, which makes them excellent for laminating gypsum panels to gypsum panels, to sound-deadening boards, and to above-grade concrete surfaces. In addition, they can be used for filling, smoothing, and finishing interior concrete ceilings and above-grade concrete; for taping and finishing SHEETROCK® Brand Gypsum Panels, Water-Resistant, under tile in bathroom wall areas; and for finishing joints in exterior gypsum ceiling boards.

To meet varying job requirements, a full line has been developed to provide a choice in setting times. The suffix number identifying each joint compound indicates an approximate setting time. For example, EASY SAND 90 sets in approximately 85-130 minutes. Other setting times available are 20 (20-30 minutes); 45 (30-80 minutes); 210 (180-240 minutes); and 300 (240-360 minutes). For patching applications requiring very quick setting, SHEETROCK® Brand Patching Compound–EASY SAND™ 5, with a setting time of 8-12 minutes, is available.

Advantages

Lightweight formula. Weighs 25% less than conventional setting-type joint compounds. Handling and application is simpler, easier, and faster.

Easy sanding. Unlike conventional setting-type joint compounds, these compounds sand easily—similar to ready-mixed, all-purpose joint compounds. Joint finishing is faster, easier, smoother.

Saves time and money. These compounds provide important labor and material cost reductions. One-day finishing with next-day decoration ensures rapid job completion and earlier occupancy. Choice of setting times aids work flow.

Quickly mixed for immediate use. Easy to mix—simply combine with water and stir. Compounds are applied after short soaking period and remixing.

Resists shrinkage and edge-cracking. Compounds tolerate small amounts of excess water that would otherwise cause delayed shrinkage. Fill and finish coats can be applied when compound is hard—but still damp—with minimum danger of delayed shrinkage and cracking.

Resists humidity changes. Setting rates are virtually unaffected by high humidity or changes in humidity. Application can be made in damp weather when drying-type compounds would delay job completion.

Multiple use. Compounds are also excellent for patching and smoothing interior drywall and concrete surfaces because they provide superior bond, low shrinkage, and fast setting-action.

Limitations

1. Setting action cannot be delayed or prevented by dilution with water.
2. Not to be applied over moist surfaces or surfaces likely to become moist, or on below-grade surfaces or surfaces projecting outside building structure unless protected from direct exposure to moisture.
3. Before using over new interior concrete surfaces, allow concrete to age 60 days or more. Remove protrusions, ridges, form or parting oils, grease, and efflorescence.
4. Prior to using any epoxy coating over any surface treated with joint compound, consult the epoxy coating manufacturer and follow manufacturer's specific recommendations regarding the preparation or suitability of substrates for the epoxy coating. Many epoxy coatings exert significant shear stress on the substrate as the strong epoxy film shrinks while curing/drying. This stress can cause the bond of the joint compound to fail, resulting in delamination problems.

Directions

Preparation	In cold weather during gypsum panel joint finishing, minimum surface, water, mix, and air temperature of 45 °F must be ensured until joints are completely dry. Adequate ventilation shall be provided to carry off excess moisture.
Gypsum Panel Joint Treatment	Position and apply SHEETROCK® Brand Gypsum Panels in accordance with manufacturer's recommendations. Mix compound according to directions on bag. If using SHEETROCK® Brand Gypsum Panels, SW Edge, prefill the "V" grooves formed by abutting tapered eased edges of the panels with EASY SAND 45 or 90. Apply compound directly over "V" groove with a flexible 5″ or 6″ joint finishing knife. Wipe off excess compound that is applied beyond the groove. Allow prefill compound to harden prior to the next application (tape-embedding coat). Cover joint with a thin layer of compound and embed tape, leaving about 1/32″ of compound under feathered edge and a thin layer over the tape. After compound has set, apply second coat, feathering out approximately 2″ beyond first coat. After setting, apply third coat, feathering out 2″ beyond second coat. After each coat is applied, smooth away any tool lap marks or other imperfections prior to hardening action. Finish fastener heads with three coats of joint compound; finish corner bead and inside corners as required with at least two coats, feathered and smoothed out onto panel faces. For priming and decorating with paint, texture, or wallcovering, follow manufacturer's directions for materials used. All surfaces must be dry, dust-free, and not glossy. A prime coat of SHEETROCK® Brand First Coat or a good-quality interior latex flat wall paint with high solids content should be applied undiluted and allowed to dry before decorating. Walls to be covered with wallpaper or vinyl wallcovering should be sealed per manufacturer's recommendations. To improve fastener concealment where gypsum panel walls and ceilings will be subjected to severe artificial or natural side lighting and be decorated with a gloss paint (eggshell, semigloss, or gloss), the gypsum panel surface should be skim-coated with joint compound to equalize suction before painting (see publication J510).
Filling and Finishing over Interior Poured Ceilings	Grind high plane differences in concrete level with adjacent area; also remove any form oil, efflorescence, and greasy deposits. Prime exposed metal with a good rust-inhibitive primer. Fill offsets or voids with joint compound. Apply additional coats of joint compound as necessary, after each coat has set, but not necessarily dried. After the final coat of joint compound has dried, apply an undiluted coat of SHEETROCK Brand First Coat or a good quality latex flat wall paint with high solids content over entire surface and allow to dry. For textured ceiling, apply SHEETROCK® Brand Ceiling Spray Texture–QT in a uniform coat at a rate not exceeding 10 ft.^{2}/lb.
Exterior Joint Treatment	Mix joint compound according to directions on the bag. Do not overmix or use at temperatures below 45 °F (7 °C). Prefill joints of SHEETROCK® Brand Exterior Gypsum Ceiling Board with compound. After prefill has set, embed SHEETROCK Brand Joint Tape centered over joint. When compound has set, immediately apply fill coat. Apply compound over flanges of zinc control joints, corner beads, and metal trim. Spot fastener heads. After fill coat has set, apply finishing coat of compound. Completely cover all joints, angles, beads, control joints, and fasteners. After the compound has dried, apply one coat of a good-quality oil or latex exterior primer. Then follow with at least one coat of a good-quality latex exterior paint.
Use with SHEETROCK Brand Gypsum Panels, Water-Resistant	In areas to be tiled, for tapered edge joints, embed SHEETROCK Brand Joint Tape with EASY SAND 45 or 90. When set, apply a fill coat. Take care not to crown the joint. Wipe excess joint compound from the panel surface before it hardens. For butt joints and interior angles, embed SHEETROCK Brand Joint Tape with EASY SAND 45 or 90. A fill coat is not necessary. Again, take care not to crown the joint. For fasteners, spot fastener heads at least once. Fill and seal all openings around pipes, fittings, and fixtures with a thinned-down coat of tile adhesive. For best results, use Type I Ceramic Tile Adhesive that meets ANSI A136.1 both as a sealer and to set the tile. With a 1″ brush, apply the thinned compound onto the raw gypsum panel core at cutouts, and allow area to dry thoroughly prior to application of tile. Before compound dries, wipe excess material from the surface of gypsum panels. For areas not to be tiled, embed tape in the conventional manner. Finish with at least two coats of a SHEETROCK Brand Joint Compound to provide joint finishing for painting and wallpapering.
Laminating	Apply joint compound in the prescribed manner to back of face panels to be laminated. Laminate face panels to (base layer panels) (coreboard) using moderate pressure and temporary nailing or shoring to ensure adequate bond.
Finishing	For painting and decorating, follow manufacturer's directions for materials used.

Use With USG Gypsum Accelerator

USG Gypsum Accelerator (High Strength) when added to SHEETROCK Brand LightweightSetting Type Joint Compound (EASY SAND) will shorten the setting time. USG Gypsum Accelerator should be sprinkled in dry form into the mixed compound. For hand mixing, dry accelerator can be added either to the dry mix or mixed compound. Never add USG Gypsum Accelerator directly to water or mix it with water to form a solution before adding it to the compound. Doing so will significantly reduce its ability to accelerate the set.

Accelerator Amount		Approximate Set Time (minutes)		
Tablespoon Per Bag	Tablespoon Per Bread Pan	EASY SAND 90	EASY SAND 45	EASY SAND 20
1.0	0.22	40	20	10
2.0	0.44	30	10	
6.0	1.33	20		

- "Bread Pan" volume estimated at 10 cups (80 oz.)
- Wet Mixed Volume of Setting Type Joint Compounds approx. 2.8 gallons (45 cups) per bag.

Product Data

Color: Natural.
Binder: Vinyl.
Filler: Calcium Sulfate.
Dilution (water): Approximately 10 to 12 pts./18 lb. (4.6 to 5.6 L/8.1 kg). Refer to bag for specific water dilution directions.
Density (dry bulk): 32 lb./ft.^{3} (513 kg/m^3).
Freezing Sensitivity: None after set, but not necessarily dry.
Coverage: Average 52 lb./1000 ft.^{2} (25.3 kg/100 m^2) of gypsum panels.
Compliance with Standards: Meet ASTM Standard C475.
Storage: Close open bags as tightly as possible and store in a dry place.
Shelf Life: Up to 6 months under protected storage conditions.
Packaging: 18 lb. (8.1 kg) bags for EASY SAND 5, 20, 45, 90, 210 and 300; 4 lb. (1.8 kg) boxes for EASY SAND 5 and 90.

Submittal Approvals:	Job Name	
	Contractor	Date

WARNING
When mixed with water, this material hardens and then slowly becomes hot. Do not attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions may cause severe burns that may require surgical removal of affected tissue. Avoid inhalation of dust and eye contact. Dust generated by sanding may cause eye, skin, or respiratory tract irritation. Use wet-sanding to avoid creating dust. If dusty, wear a NIOSH/MSHA-approved respirator. Prolonged and repeated exposure to mica may cause lung disease. Wear eye protection. If eye contact occurs flush thoroughly with water for 15 minutes. If irritation persists, call physician. Do not ingest. If ingested, call physician. Product safety information: (800) 507-8899.
KEEP OUT OF REACH OF CHILDREN.

Trademarks:
The following trademarks used herein are owned by United States Gypsum Company: EASY SAND, SHEETROCK.

Note:
Products described here may not be available in all geographic markets. Consult your U.S. Gypsum Company sales office or representative for information.

Notice:
We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

SAFETY FIRST!
Follow good safety and industrial hygiene practices during handling and installing of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

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SHEETROCK® LIGHTWEIGHT SETTING TYPE JOINT COMPOUNDS EASY SAND™ 5, 20, 45, 90, 210

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	Sheetrock® Lightweight Setting Type Joint Compounds Easy Sand™ 5, 20, 45, 90, 210
Other Means of Identification	Joint compound
Other Names	Joint compound, Taping Compound, Mud
Product Use	Building industry
Company Name	USG Interiors Pacific Ltd
Address	Suite 412, 1 Queens Rd Melbourne VIC 3004
Telephone Number	03 9639 0900
Emergency Telephone	1800 757 943

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture



Exclamation Mark

Health Hazard

H319 - Causes serious eye irritation	Serious Eye Damage/Irritation - Warning - Hazard Category 2A
H335 - May cause respiratory irritation	STOT (Single Exposure) - Warning - Hazard Category 3
H315 - Causes skin irritation	Skin Corrosion/Irritation - Warning - Hazard Category 2
H373 - May cause damage to organs	STOT (Repeated Exposure) - Warning - Hazard Category 2

GHS Label Elements Including Precautionary Statements

Prevention
Avoid breathing dusts.
Wear eye protection/face protection.
In case of inadequate ventilation wear respiratory protection.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Use personal protective equipment as required.

Response
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash before reuse.

Storage
Store in a well-ventilated place.

Disposal
Dispose of contents/container in accordance with local/regional/national / international regulations.

Other hazards which do not result in classification	Repeated exposure may cause skin dryness or cracking. A commercially available hand lotion may be used to treat dry skin areas.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Characterisation **Mixture**

Hazardous Ingredients (Common Name)	**CAS No**	**Concentration**
Plaster of Paris	26499-65-0	60-70%
Limestone	1317-65-3	<10%
Dolomite or	16389-88-1	
Perlite, expanded	93763-70-3	<10
Mica group minerals	12001-26-2	<10
Ethenol, homopolymer	9002-89-5	<5%
Palygorskite	12174-11-7	<5%
Quartz (SiO2) - The weight percent for silica represents total quartz and not the respirable fraction.	14808-60-7	<5%

4. FIRST AID MEASURES

Inhalation	Remove to fresh air. Seek medical attention if irritation persists.
Ingestion	Wash mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention if gastric disturbance occurs.
Skin	In case of skin contact wash affected areas with water and soap. Seek medical attention if irritation persists.
Eyes	In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

	For major fires call the Fire Brigade. Ensure that an escape path is available from any fire.
Suitable Extinguishing Media	Water spray or extinguishing media appropriate for surrounding fire.
Hazardous Combustion Products	No information available.
Special Protective Equipment and Precautions for Fire Fighters	Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing.
Unusual Fire or Explosion Hazards	Not expected to burn.
Hazchem Code	Not allocated

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures	Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe dust. Ensure adequate ventilation.
Environmental Precautions	Prevent material from entering drains or water courses.
Methods and Materials for Containment and Cleaning Up	Collect the spilled material and place into containers for salvage or disposal. Avoid generating dust.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Use of safe work practices are recommended to avoid eye or skin contact and inhalation of dust. Prevent dust generation and accumulation. When mixed with water, this material hardens and becomes very hot – sometimes quickly. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure. .
Conditions for Safe Storage	Store in a cool, dry, and well ventilated area. Keep away from heat and moisture. Presence of liquid will harden plaster of Paris during storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters - Exposure Standards (Safe Work Australia)	**Quartz (silica crystalline):** TWA: - ppm /0.1 mg/m^3 (respirable dust) STEL: - ppm / - mg/m^3 **Mica:** TWA: - ppm /2.5 mg/m^3 (inspirable) STEL: - ppm / - mg/m^3 **Perlite:** TWA: - ppm /10 mg/m^3 STEL: - ppm / - mg/m^3
Engineering Controls	Maintain air concentration below occupational exposure standards, using engineering controls. Where general ventilation is inadequate, use process enclosures, local exhaust ventilation, or other engineering controls to maintain dust levels below permissible exposure limits.

Personal Protective Equipment (PPE)

Respiratory Protection	Wear a Safe Work Australia approved respirator equipped with particulate cartridges when working in dusty or poorly ventilated areas or if TLV is exceeded. See Australian Standards AS/NZS 1715 and 1716 for more information.
Eye/Face Protection	Safety glasses with top and side shields or goggles. Do not wear contact lenses. See Australian Standards AS/NZS 1336 and 1337 for more information.
Skin Protection	Protective gloves and protective clothing. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.
Thermal Hazards	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White to off-white solid/powder
Odour	Low odour or odourless
Odour Threshold	Not determined
pH	~7
Melting Point / Freezing Point	Not applicable
Initial Boiling Point / Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability	Not flammable
Lower Flammability or Explosive Limit	Not applicable
Upper Flammability or Explosive Limit	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Relative Density (Specific Gravity)	~2.96 (Plaster of Paris) ~2.6 (Limestone)

	~2.8 (Mica) <1 (Perlite, expanded)
Solubility in Water (g/100g)	0.15-0.40 ((Plaster of Paris) 0.15 - (Limestone) Insoluble - Mica
Bulk Density	881-1121 kg/m^3 (dry)
Auto-ignition Temperature	Not determined
Decomposition Temperature	1450°C
Self-inflammability	Product is not self-igniting.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable at ambient temperature and under normal conditions of use.
Possibility of Hazardous Polymerization	None known.
Conditions to Avoid	Heat and moisture.
Incompatible Materials	Water and acids. Exposure to water and acids must be supervised because the reactions are vigorous and produce large amounts of heat.
Hazardous Decomposition Products	Calcium oxide and sulfur dioxide – above 1450°C. Calcium oxide and carbon dioxide – above 800°C (decomposition of limestone)

11. TOXICOLOGICAL INFORMATION

Toxicity	**Plaster of Paris:** Oral LD_{50} (rat) > 5000 mg/kg Testing of dust from USG Plaster of Paris has not detected respirable crystalline silica.
Acute Health Effects	
Skin Corrosion/Irritation	Causes skin irritation.
Serious Eye Damage/Irritation	Causes serious eye irritation.
Respiratory or Skin Sensitisation	Not expected to be a hazard.
Germ Cell Mutagenicity	Not expected to be a hazard.
Carcinogenicity	Silica dust, crystalline, in the form of quartz or cristobalite is classified by IARC as a Group 1 - Carcinogenic to humans.
Reproductive Toxicity	Not expected to be a hazard.
Specific Target Organ Toxicity (STOT) - Single Exposure	May cause respiratory irritation.
Specific Target Organ Toxicity (STOT) - Repeated Exposure	May cause damage to organs.
Aspiration Hazard	Not expected to be a hazard.
Routes of Exposure	Inhalation: Exposure to dust generated during the handling or

		use of the product may irritate throat and upper respiratory tract causing coughing, sneezing and nasal irritation.
	Ingestion:	Plaster of Paris hardens and, if ingested, may result in obstruction of the gut. Drinking gelatine solutions or large volumes of water may delay setting.
	Eye:	Dust particles can cause mechanical irritation of eyes, burning, redness, itching and pain.
	Skin:	Dust particles can cause mechanical irritation, drying and cracking of skin.
Chronic Health Effects	Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease silicosis, tuberculosis (silicotuberculosis) and lung cancer. Silicogenic dust with a particle size smaller than 5µm causes inflammatory reaction in the alveoli which can lead to scarring and formation of fibrosis in connecting tissue and causes the loss of the elasticity in the lung tissue. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure intensity and duration. The only and most efficient measure to avoid silicosis is preventing the formation of silicogenic dust at the workplace and strict observance of specific occupational exposure limits. Prolonged and repeated breathing of respirable mica dust may cause lung disease (pneumoconiosis). The extent and severity of lung injury correlates with the length of exposure and dust concentration	
Existing Conditions Aggravated by Exposure	Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Pre-existing skin diseases such as, but not limited to, rashes and dermatitis.	

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence and Degradibility	No information available.
Bioaccumulative Potential	No information available.
Mobility in Soil	No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods and containers	Slurry may plug drains. Trace amounts of residue can be flushed to a drain, using plenty of water. Dispose according to applicable local and state government regulations.
Special precautions for landfill or incineration	Please consult your state Land Waste Management Authority for more information.

14. TRANSPORT INFORMATION

UN Number	Not applicable
Proper Shipping Name	Not applicable
Dangerous Goods Class	Not applicable
Subsidiary Risk	Not applicable
Hazchem Code	Not applicable
Packing Group	Not applicable
Special Provisions	Not applicable
Limited Quantities	Not applicable
Packagings & IBCs - Packing Instruction	Not applicable
Packagings & IBCs - Special Packing Provisions	Not applicable
Portable Tanks & Bulk Containers – Instructions	Not applicable
Portable Tanks & Bulk Containers – Special Provisions	Not applicable

15. REGULATORY INFORMATION

Limestone or dolomite, perlite, expanded, mica group minerals, ethenol, homopolymer, palygorskite and quartz (SiO_2) are listed in the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Last Revision of MSDS	Rev 1.0 (28/06/2012)	
Prepared by	MSDS.COM.AU Pty Ltd	www.msds.com.au

Abbreviations Used

GHS – Globally Harmonised System of Classification and Labeling of Chemicals
IARC: International Agency for Research on Cancer
STEL: Short term exposure limit
TWA: Time weighted average

Emergency Contacts

USG Interiors Pacific Ltd	**03 9639 0900**
USG Interiors Pacific Ltd – Emergency Number	**1800 757 943**
Police and Fire Brigade	**000**
Poisons Information Centre	**13 11 26**

The information contained in this material safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. USG Interiors Pacific Ltd makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. MSDS.COM.AU Pty Ltd is not in a position to warrant the accuracy of the data herein. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.

This MSDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals.”

U.S.Department of Health & Human Services www.hhs.gov

Household Products Database
Health & Safety Information on Household Products

National Institutes of Health
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Pesticides
Landscape/Yard
Personal Care
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Arts & Crafts
Pet Care
Home Office

Browse A-Z
Products Names
Types of Products
Manufacturers
Ingredients

Support
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FAQ
Product Recalls
Help
Glossary
Contact Us
More Resources

Product Information

Product Name: **Windex Original-Old Product**
Form: pump spray
Product Category: Inside the Home » glass » Cleaner
Inside the Home » cleaner » Glass
Inside the Home » glass cleaner » Windows
Customer Service: 800-558-5252
Date Entered: 1996-08-21
Related Items: Products with similar usage in this database

Manufacturer

Manufacturer: SC Johnson, Inc.
Address: 1525 Howe Street
City: Racine
State: WI
Zip Code: 53403
Telephone Number: 262-260-2000
Fax Number: 262-260-6004
Toll Free Number: 800-558-5252
Date Info Verified: 2012-06-20
Related Items: Products by this manufacturer

The following information (Health Effects, Handling/Disposal, and Ingredients) is taken from the product label and/or the Material Safety Data Sheet (MSDS) prepared by the manufacturer. The National Library of Medicine does not test products nor does it evaluate information from the product label or the MSDS. (**What is an MSDS?**)

Health Effects

Enter text or highlight term... Search TOXNET

Warnings: Unplug electric appliances before cleaning. Keep out of reach of young children.
Acute Health Effects: From MSDS Inhalation: None known. Eye Contact: May cause moderate eye irritation. Skin Contact: Prolonged or repeated contact may cause mild skin irritation. Drying/defatting of skin. Ingestion: None known. Medical Conditions Generally Aggravated by Exposure: None known.
Chronic Health Effects: From MSDS None known.
Carcinogenicity: From MSDS This product is not subject to the reporting requirements under California's Proposition 65.
Health Rating: 0
Flammability Rating: 2
Reactivity Rating: 0
HMIS Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe; N = No information provided by manufacturer; * = Chronic Health Hazard
MSDS Date: 1997-10-07

Handling/Disposal

Handling: From MSDS Keep out of reach of children. Keep container well closed when not in use.
Disposal: From MSDS No special method. Observe all applicable Federal/Provincial/State/Local/Municipal ordinances regarding disposal of non-hazardous materials.

Ingredients from MSDS/Label

Chemical	CAS No / Unique ID	Percent
Isopropanol	000067-63-0	1.0-5.0

2-Butoxyethanol	000111-76-2	0.5-1.5
Ethylene glycol n-hexyl ether	000112-25-4	0.1-1.0
Water	007732-18-5	90-95

Note: Brand names are trademarks of their respective holders.
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Home | **Brands** | **Manufacturers** | **Ingredients** | **Health Effects**

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Last updated: January, 2013

Material Safety Data Sheet

according to ANSI Z400.1- 2004 and 29 CFR 1910.1200

WINDEX® ORIGINAL GLASS CLEANER

Version *1*.0

Revision Date 01/06/2010

Print Date 08/23/2011

MSDS Number 350000014153
SITE_FORM Number
30000000000000010965.001

1. PRODUCT AND COMPANY IDENTIFICATION

Product information

Trade name	:	WINDEX® ORIGINAL GLASS CLEANER
Use of the Substance/Mixture	:	Hard Surface Cleaner
Company	:	S.C. Johnson and Son, Limited 1 Webster Street Brantford ON N3T 5R1
Emergency telephone	:	24 Hour Transport & Medical Emergency Phone (866) 231-5406 24 Hour International Emergency Phone (952) 852-4647 24 Hour Canadian Transport Emergency Phone (CANUTEC) (613) 996-6666

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance / Odor	:	blue / liquid / pleasant
Immediate Concerns	:	Avoid contact with skin, eyes and clothing.

Potential Health Effects

Exposure routes	:	Eye, Skin, Inhalation, Ingestion.
Eyes	:	None known.
Skin	:	None known.
Inhalation	:	None known.
Ingestion	:	None known.
Aggravated Medical Condition	:	None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight percent
Water	7732-18-5	60.00 - 100.00

4. FIRST AID MEASURES

Eye contact	:	Rinse with plenty of water. Get medical attention if irritation develops and persists.
Skin contact	:	Rinse with plenty of water.
Inhalation	:	Remove to fresh air.
Ingestion	:	No special requirements

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Alcohol foam, carbon dioxide, dry chemical, water fog
Specific hazards during fire fighting	:	Container may melt and leak in heat of fire.
Further information	:	Although this product has a flash point below 200 Deg F, it is an aqueous solution containing an alcohol and does not sustain combustion. Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus.
Flash point	:	85 °C Method: ASTM D 56
Flash point	:	185 °F Method: ASTM D 56
Lower explosion limit	:	Note: no data available
Upper explosion limit	:	Note: no data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Remove all sources of ignition.
Methods for cleaning up	:	Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Dike large spills.

7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	KEEP OUT OF REACH OF CHILDREN AND PETS. Use only as directed.
Advice on protection against fire and explosion	:	Keep away from heat and sources of ignition.

Storage

Requirements for storage areas and containers	:	Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Do not freeze.
Other data	:	Stable under normal conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

ACGIH or OSHA exposure limits have not been established for this product or reportable ingredients unless noted in the table above.

Personal protective equipment

Respiratory protection

Industrial setting	:	No personal respiratory protective equipment normally required.
Household setting	:	No personal respiratory protective equipment normally required.

Hand protection

Industrial setting	:	not required under normal use
Household setting	:	not required under normal use

Eye protection

Industrial setting	:	No special requirements.
Household setting	:	No special requirements.
Hygiene measures	:	Use only with adequate ventilation. Wash thoroughly after handling. Wear suitable protective clothing.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid
Color	:	blue
Odor	:	pleasant
pH	:	10.7
Boiling point	:	no data available
Freezing point	:	no data available
Flash point	:	85 °C Method: ASTM D 56
Flash point	:	185 °F Method: ASTM D 56
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Does not sustain combustion.
Autoignition temperature	:	no data available
Lower explosion limit	:	no data available
Upper explosion limit	:	no data available
Vapour pressure	:	no data available
Density	:	0.997 g/cm3 at 20 °C
Water solubility	:	soluble
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Volatile Organic Compounds (California Air Resource Board – CARB) Total VOC (wt. %)	:	0.5 % - does not include any applicable regulatory exemptions

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10. STABILITY AND REACTIVITY

Conditions to avoid	:	None known.
Materials to avoid	:	Strong oxidizing agents
Hazardous decomposition products	:	When exposed to fire, produces normal products of combustion.
Hazardous reactions	:	Stable

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	LD50 estimated > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 estimated > 2.58 mg/l
Acute dermal toxicity	:	no data available
Chronic effects		
Carcinogenicity	:	no data available
Mutagenicity	:	no data available
Reproductive effects	:	no data available
Teratogenicity	:	no data available
Sensitisation	:	Not known to be a sensitizer.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects	:	no data available

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13. DISPOSAL CONSIDERATIONS

Industrial setting	:	Observe all applicable Federal, Provincial and State regulations and Local/Municipal ordinances regarding disposal.
Household setting	:	Consumer may discard empty container in trash, or recycle where facilities exist.

14. TRANSPORT INFORMATION

Land transport

- **U.S. DOT and Canadian TDG Surface Transportation:**

UN-Number	None.
Proper shipping name	not regulated
Class:	None.
Packaging group	None.

Sea transport

- *IMDG:*

UN-Number:	None.
Packaging group:	None.
Proper shipping name	not regulated
Class:	None.

Air transport

- *ICAO/IATA:*

Class:	None.
Packaging group:	None.
Proper shipping name	not regulated
UN/ID No.:	None.

15. REGULATORY INFORMATION

Notification status	:	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Notification status	:	All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

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California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
Canada Regulations	:	This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

HMIS Ratings

Health	0
Flammability	2
Reactivity	0

NFPA Ratings

Health	0
Fire	2
Reactivity	0
Special	

Further information
This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by:	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)

ZEP Heavy Duty Citrus Degreaser



PRODUCT OVERVIEW

This powerful multi-purpose cleaner and degreaser is made with a natural citrus solvent that powers through the toughest grease, dirt and grime. Dissolving away the most stubborn stains, Zep Heavy Duty Citrus Degreaser is great for cleaning in the home, garage, shop and office.

- Quickly and easily lifts grease, germs, dirt and oil
- Great for cleaning tough jobs on nearly every surface
- Deodorizes as it cleans with real citrus solvents
- Professional strength formula cleans better than orange oil
- MFG Model # : ZUCIT32
- MFG Part # : ZUCIT32

SPECIFICATIONS

Anti-Bacterial or Disinfecting	No	Assembled Depth (in.)	3.05 in
Assembled Height (in.)	11.25 in	Assembled Width (in.)	4.44 in
Bleach Added	No	Cleaning Product Type	Degreaser
Cleaning Surface Type	Porous or nonporous	Commercial / Residential	Commercial / Residential
Concentrated	No	Kills Mildew	No
Manufacturer Warranty	N/A	No-rinse	No
Product Form	Liquid	Product Size (oz.)	32
Returnable	90-Day	Scent	Citrus

Zep Commercial Sales & Service
A unit of Zep Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-888-805-HELP (4357)
www.zepcommercial.com

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product name **Heavy-Duty Citrus Degreaser**

Product code **ZUCIT**

Date of issue **03/16/11** **Supersedes 10/14/08**

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 404-352-1680

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By
Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

Section 2. Hazards Identification

Emergency overview

*Hazard Determination System (HDS): Health, Flammability, Reactivity



WARNING !

COMBUSTIBLE. CAUSES EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. HARMFUL IF SWALLOWED.

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects **Routes of Entry** Dermal contact. Eye contact. Inhalation.

Eyes Causes eye irritation. Inflammation of the eye is characterized by redness, watering and itching.

Skin May cause skin irritation. May cause skin sensitization. May cause allergic reactions in certain individuals. Skin inflammation is characterized by itching, scaling, or reddening.

Inhalation Over-exposure by inhalation may cause respiratory irritation.

Ingestion May be harmful if swallowed. Ingestion may cause gastrointestinal irritation and diarrhea.

Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver. Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
D-LIMONENE; orange distillate; citrus terpene; cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)-	5989-27-5	1 - 5
MONOETHANOLAMINE; 2-aminoethanol; MEA	141-43-5	1 - 5
DIETHYLENE GLYCOL MONOBUTYL ETHER; 2-(2-butoxyethoxy)-ethanol; butyl carbitol	112-34-5	1 - 5
DIPROPYLENE GLYCOL N-BUTYL ETHER; 1-(2-butoxy-1-methoxy)- 2-propanol; Glycol Ether DPNB	29911-28-2	1 - 5
SODIUM XYLENE SULFONATE	1300-72-7	1 - 5
C12-C16 ETHOXYLATED ALCOHOLS	68551-12-2	1 - 5

Section 4. First Aid Measures

Eye Contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention immediately.

Skin Contact Flush affected skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Get medical attention if irritation develops.

Inhalation Move exposed person to fresh air. If irritation persists, get medical attention.

Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If affected person is conscious, give plenty of water to drink. Get medical attention immediately.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)



Flash Point Closed cup: 51.1°C (124°F) [Tagliabue.]

Flammable Limits Not determined.

Flammability COMBUSTIBLE.

Fire hazard COMBUSTIBLE LIQUID AND VAPOR. Keep away from heat, sparks and flame.

Fire-Fighting Procedures Use dry chemical, CO_2, water spray (fog) or foam. Fire-fighters should wear appropriate protective equipment. Do not release runoff from fire to drains or watercourses.

Section 6. Accidental Release Measures

Spill Clean up Eliminate all ignition sources. Put on appropriate personal protective equipment (see section 8). Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and Storage

Handling Put on appropriate personal protective equipment (see section 8). Store and use away from heat, sparks, open flame or any other ignition source. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray or mists. Use only with adequate ventilation. Do not ingest. Observe label precautions. Wash thoroughly after handling. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage Keep away from heat and direct sunlight. Avoid all possible sources of ignition (spark or flame). Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name

MONOETHANOLAMINE; 2-aminoethanol; MEA

Exposure limits

OSHA PEL / ACGIH TLV (United States).
TWA: 3 ppm 8 hour(s).
OSHA /ACGIH (United States).
STEL: 6 ppm 15 minute(s).

Personal Protective Equipment (PPE)



Eyes Safety glasses.

Body For prolonged or repeated handling, use gloves. Recommended: Neoprene gloves. Nitrile gloves. Rubber gloves.

Respiratory Use with adequate ventilation. A respirator is not needed under normal and intended conditions of product use.

Section 9. Physical and Chemical Properties

Physical State Liquid.
pH 11.0 - 12.0
Boiling Point Not available.
Specific Gravity 1.01
Solubility Soluble in water.

Color Clear. Amber.
Odor Citrus
Vapor Pressure Not available.
Vapor Density Not determined.
Evaporation Rate 1 (Water = 1)
VOC (Consumer) 4.0% 0.34 lbs/gal 40 (g/l).

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Combustible materials should be stored away from extreme heat and away from strong oxidizing agents. Incompatible with some strong acids. Reactive with acidic clay (i.e. clay absorbent)

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products carbon oxides, nitrogen oxides (NO, NO_2 etc.)

Section 11. Toxicological Information

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure

Monoethanolamine	LD50 Dermal	Rabbit	>1000 mg/kg	-
	LD50 Oral	Rat	1720 mg/kg	-
Diethylene glycol monobutyl ether	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Dermal	Rabbit	2700 mg/kg	-
	LD50 Oral	Mouse	2400 mg/kg	-
	LD50 Oral	Rat	4500 mg/kg	-
	LD50 Oral	Rat	5660 mg/kg	-
C12-C16 Ethoxylated alcohols	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	1380 mg/kg	-

Section 12. Ecological Information

Environmental Effects No known significant effects or critical hazards.

Aquatic Ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Diethylene glycol monobutyl ether	-	Acute LC50 2000000 ug/L Marine water	Fish - Inland silverside - Menidia beryllina - 40 to 100 mm	96 hours
	-	Acute LC50 1300000 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 33 to 75 mm	96 hours

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Code: D001
Classification: - [Hazardous waste.]
Origin: - [RCRA waste.]

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	Not applicable.	Not a DOT controlled material (United States).			
TDG Classification	Not regulated.				
IMDG Class	Not determined.				

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information

U.S. Federal Regulations

SARA 313 toxic chemical notification and release reporting:

Product name

Diethylene glycol monobutyl ether

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: Diethylene glycol monobutyl ether

All Components of this product are listed or exempt from listing on TSCA Inventory.

United States inventory (TSCA 8b): Not determined.

State Regulations

California Prop 65 No products were found.

Canada

WHMIS (Canada)

Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2B: Material causing other toxic effects (Toxic).

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.*

Material Safety Data Sheet

Section 1 General Information

Manufacturer:
Zinsser Company, Inc.
173 Belmont Drive
Somerset, NJ 08875
(732) 469-8100

Emergency Telephone: Chemtrec (800) 424-9300 **Date**: August 15, 2008

Product Name: **B-I-N Primer Sealer**

Product Codes: 00900 00901 00904 00908 00910 00911 00914 00918 00955 01099

Section 2 Hazardous Ingredients

Hazardous Component	CAS#	OSHA PEL	ACGIH TLV
Ethyl Alcohol	64-17-5	1000 PPM	1000 PPM
Isopropyl Alcohol	67-63-0	400 PPM	400 PPM
Kaolin	1332-58-7	15 mg/m^3 *	2 mg/m^3 *
Magnesium Aluminum Silicate	12174-11-7	15 mg/m^3 * (5 mg/m^3 **)	10 mg/m^3 † (3 mg/m^3 **)
Talc	14807-96-6	20 mppcf	2 mg/m^3 *
Titanium Dioxide	13463-67-7	15 mg/m^3 *	10 mg/m^3 *

* Total Dust ** Respirable Dust Fraction

Section 3 Hazard Identification

Emergency Overview: B-I-N Primer Sealer is an alcohol based, pigmented shellac used to prime surfaces before painting. It is a white, fluid liquid with a flash point below 70° F and is considered flammable by OSHA and the US Department of Transportation.

Primary Routes of Exposure:

Inhalation
Skin contact

Potential Acute Health Effects:

Eye: Eye contact may cause eye irritation, redness, or blurred vision.

Skin: May cause skin irritation. Avoid prolonged or repeated contact with skin.

Ingestion: Ingestion is not an expected route of exposure, however, if swallowed nausea, vomiting, gastrointestinal distress and abdominal pain may occur depending on amount ingested.

Inhalation: At high concentrations may cause respiratory tract irritation, headache, or fatigue.

Potential Chronic Health Effects: May cause central nervous system depression.

Signs and Symptoms: Dizziness, fatigue, and headache.

(See also Sections 4, 8, and 11 for related information)

Section 4 First Aid Measures

Eye contact: Flush eyes immediately with large amounts of water for at least 15 minutes. Get medical attention.

Skin contact: Wash exposed area thoroughly with soap and water. Get medical attention if irritation develops.

Ingestion: If swallowed call a physician, poison control center, or hospital emergency room. Do not induce vomiting because of the danger of aspirating liquid into the lungs. If spontaneous vomiting occurs, monitor breathing for difficulty. Treat symptomatically and supportively. Get medical attention.

Inhalation: If symptoms develop, remove affected person to fresh air. If breathing is difficult, administer oxygen if available. If respiratory symptoms persist, get medical attention.

Note to Physician: See toxicology data presented in Section 11.

Section 5 Fire Fighting Measures

Flash Point (method): 63° F (Pensky Marten Closed Cup)

Extinguishing Media: Foam, Dry Chemical, Water Fog, CO_2

Protection of Firefighters: As in any fire, wear self-contained breathing apparatus in pressure demand mode and full protective gear.

Section 6 Accidental Release Measures

Clean Up Methods: Eliminate all ignition sources. Keep unnecessary people away. Dike and contain spill with inert material (sand, earth, etc.). Transfer liquid to containers for recovery or disposal, or absorb with absorbent materials and place into containers for disposal. Keep spill out of sewer and open bodies of water. Floors may be slippery; care should be exercised to avoid falls during clean up operations.

(See also Section 8 for information on Exposure Controls and Personal Protective Equipment)

Section 7 Handling and Storage

Handling: Avoid contact with eyes, skin, and clothing.

Storage: Store in a cool, dry place away from excessive heat, open flame, or sparks. Do not store near oxidizers.

Section 8 Exposure Controls / Personal Protection

Engineering Controls: Use in well-ventilated areas. If necessary use mechanical local exhaust ventilation or general room dilution ventilation to reduce vapor concentrations.

Personal Protective Equipment (PPE):

Eye Protection: Prevent eye contact. Wear chemical splash goggles or similar eye protection if the potential exists for eye contact.

Skin Protection: Avoid unnecessary skin contact. It is recommended that rubber gloves be worn to prevent skin contact Depending on conditions of use additional protective equipment may be necessary such as face-shield, apron or coveralls.

Respiratory Protection: None required for normally expected use conditions. If exposure limits are exceeded or if irritation is experienced, appropriate NIOSH approved respiratory protection with organic vapor cartridges should be worn.

General Hygiene Practices: Wash after handling material. Prevent Eye contact. Avoid prolonged skin and inhalation contact. Wash thoroughly before handling food, cosmetics, or before smoking.

Section 9 Physical Data

Appearance:	White fluid	**Odor**: Alcohol type	
Physical State:	Liquid	**Boiling Point**:	173° F*
Melting/Freezing Point:	N/D	**pH**:	N/D
Viscosity:	~500 cps.	**Vapor Density** (air =1):	1.59*
Odor Threshold:	N/D	**Vapor Pressure**:	43.3 mm Hg*
Specific Gravity (water = 1):	1.16 – 1.19	**Autoignition Temp**:	685° F*
VOC Content:	≤ 550 g/l	* Based on pure ethyl alcohol.	

Water Solubility: The alcohol portion is soluble in water, the shellac portion is not soluble and will from a gelatinous layer on top of water.

Section 10 Stability and Reactivity

Stability: Material is stable.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: None known.

Conditions to Avoid: Heat, open flames, and sparks.

Incompatibility: Acids, oxidizing agents.

Section 11 Toxicological Information

Carcinocenicity: This material is not considered a carcinogen by IARC or NTP and is not regulated as a carcinogen by OSHA.

Eye Irritant: This material has been tested for eye irritation in accordance with the FHSA by the methods described in 16 CFR 1500 as regulated by the CSPC. Based on the results of these tests, this material is considered to be a primary eye irritant.

Dermal Irritant: This material has been tested for dermal irritation in accordance with the FHSA by the methods described in 16 CFR 1500 as regulated by the CSPC. Based on the results of these tests, this material is not considered as a primary dermal irritant.

Acute Oral Toxicity: This material has been tested for acute oral toxicity in accordance with the FHSA by the methods described in 16 CFR 1500 as regulated by the CSPC. Based on the results of these tests, this material is not considered toxic.

Acute Inhalation Toxicity: This material has been tested for acute inhalation toxicity in accordance with the FHSA by the methods described in 16 CFR 1500 as regulated by the CSPC. Based on the results of these tests, this material is not considered toxic.

(See also Section 15 for related information)

Section 12 Ecological Information

Chemical Fate and Effects: No data available.

Section 13 Disposal Considerations

RCRA Hazardous Waste: Yes

RCRA Hazardous Waste: This material, when discarded or disposed of, could be a hazardous waste according to federal regulations (40 CFR 261) due to the characteristic of ignitability (D001). The transportation, storage, treatment, and disposal of this waste must be conducted in

compliance with 40 CFR 262, 263, 264, 268, and 270. Disposal can only occur in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate.

Section 14 Transportation Information

Regulated by the US Department of Transportation (DOT): Yes

DOT Proper Shipping Name: Paint

DOT Hazard Class: 3

DOT Packing Group: PG III

UN / NA Number: UN 1263

Section 15 Regulatory Information

CERCLA:

The Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification to the National Response Center for releases of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4 (for CERCLA 102).

Components present in this product at a level which could require reporting under the statute are:

Chemical Name	CAS#	Maximum Concentration (Wt. %)
None	N/A	N/A

SARA Title III, section 311/312:

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are:

Chemical Name	CAS#	Maximum Concentration (Wt. %)
Isopropyl Alcohol	67-63-0	6%

SARA Title III, section 313:
The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313).

Components present in this product at a level which could require reporting under the statute are:

Chemical Name	CAS#	Maximum Concentration (Wt. %)
Isopropyl Alcohol	67-63-0	6%

TSCA:

The components of this mixture are listed in the Toxic Substance Control Act Inventory of Chemical Substances.

This product contains the following chemicals which require export notification under section 12(b) of the TSCA regulation:

Chemical Name	CAS#	TSCA Section
None		

Section 16 Other Information

Legend: **N/A**: Not Applicable
N/D: Not Determined
N/E: Not Established
N/R: Not Required
STEL: Short Term Exposure Limit
C: OSHA Ceiling Value
PPM: Parts Per Million
PPB: Parts Per Billion
PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time Weighted Average
mg/m^3: Milligrams per cubic Meter
mppcf: Million particles per cubic foot of air.
ACGIH: American Conference of Governmental Industrial Hygienists
FHSA: Federal Hazardous Substance Act
CPSC: Consumer Product Safety Commission
OSHA: Occupational Safety and Health Administration (US Dept. of Labor)
RCRA: Resource Conservation and recovery Act
SARA: Superfund Amendment and Reauthorization Act
TSCA: Toxic Substance Control Act

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